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Social Science Text-Books

Edited by RICHARD T. ELY, Ph.D., LL.D.

Director of the Institute for Research in Land Economics and Public Utilities and Research Professor of Economics, in Northwestern University

OUTLINES OF ECONOMICS

SOCIAL SCIENCE TEXT-BOOKS

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OUTLINES OF ECONOMICS (Fifth Edition)
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BY

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PREFACE

The first edition of the *Outlines of Economics*, written by Professor Ely, was published in 1893. Four persons coöperated in preparing the revised and enlarged editions which appeared in 1908, 1916, and 1923. Professor Young participated only during the earlier stages of the present revision. Before his untimely death he had examined and improved the revision up to Chapter XIII.

In the present edition, some of the chapters have been rearranged in order to bring together the discussion of the fundamental principles of distribution and to group in one book a number of economic problems in which State action or regulation is particularly prominent.

Part I of Book II, dealing with elementary concepts, production, consumption, value, and price, has been practically rewritten, and in most of the other chapters the revision has gone beyond the mere bringing of facts and figures up to date. The doctrinal change of chief importance is the recognition that the resemblances between land and capital are more significant than their differences. The chapter on Land Rent has been rewritten.

Following the advice of several teachers of economics we have omitted as inadequate most of the material previously included in the chapter entitled "The Characteristics of the Present Economic System"; and have reinserted in revised form the chapter on Insurance omitted from the edition of 1923.

We are again indebted to many teachers of economics for helpful criticisms and suggestions. The revision of the chapters dealing with Labor Questions owes much to Dr. E. W. Morehouse. Professors B. H. Hibbard and G. S. Wehrwein contributed the section on the Public Domain in Chapter IV. Several improvements, particularly the correction of some of the diagrams in Chapter X, were suggested by Dr. William Jaffé. The painstaking and discrimi-

nating revision of the entire manuscript by Dr. Grace M. Jaffé bettered this edition in places too numerous to mention.

Despite the changes mentioned above, the characteristic atmosphere and scope of the *Outlines of Economics* have been preserved. Economics is studied primarily as a science of human relationships.

THE AUTHORS

MARCH, 1930

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BOOK I

INTRODUCTION

CHAPTER I

THE NATURE AND SCOPE OF ECONOMICS

THE most striking characteristics of the great field of economics are its breadth and diversity. Starting from psychology in its analysis of the human wants which explain or condition wealth, economics traverses the entire field of social activities and institutions arising from man's efforts to supply his material needs. It touches on one side the physical sciences, from which it borrows some of its fundamental principles; occupies joint territory at places with politics, ethics, and law, although their respective jurisdictions are in the main distinct; and forms at once the most fertile and most thoroughly developed province of the broad science of human society.

Within its borders, if we may continue to compare the scientific possibilities of economics with the natural resources of an opulent territory, opportunity is offered for the exercise of nearly every mental aptitude and every scientific method. The historian's gift is needed to unravel the past and trace the development of the industrial institutions whose present-day problems, in turn, offer indefinite scope for the studies of the more practical student with a taste for administration or business management. For the legal mind there are the subtle problems of property, inheritance, labor legislation, and corporation control; for the mathematically inclined, the technique of modern statistics; for students with practical political interests, the tariff, taxation, and a score of important problems in which economics and politics are inextricably interwoven; for the philanthropic, unemployment, social insurance, and a number of other social problems growing out of the maladjustments of modern industry. Animating the entire subject, blended with the love of truth for truth's sake common to all sciences, is the persistent hope that by systematic study we

may eventually abolish the material poverty which deadens and dwarfs the lives of millions of our fellows. Economics is a science, but something more than a science; a science shot through with the infinite variety of human life, calling not only for systematic thinking but for human sympathy, imagination, and in an unusual degree for the saving grace of common sense.

It is frequently said that economics treats of man's efforts to earn a living, and this definition is not inaccurate if by "man" we understand "mankind," and if we fully appreciate that the individual's efforts to turn an honest penny's profit receive but little attention in comparison with the community's efforts to feed, clothe, and shelter itself. Satisfaction of social need, and not individual profit, is the objective point of the science. So, similarly, economics has been characterized as the philosophy of human industry; and this description is illuminating provided we interpret "industry" broadly enough. Even the old traditional definition, that economics is the science of wealth, is true enough if we clearly understand that there can be no wealth without man, and that the science which deals with wealth, so far from being a "gospel of mammon," necessarily begins and ends in the study of man. As we prefer to define it, however, *economics is the science which treats of those social phenomena that are due to the wealth-getting and wealth-using activities of man.*

Economics as a Science. — Broadly conceived, science is simply generalized and ordered knowledge that has certain metes and bounds determined by the particular field concerned. Science deals with phenomena and their causes and if these phenomena and causes are, on account of their relationships, capable of being treated as a separate branch of knowledge, then they constitute a science. Man's search for truth is furthered by separating out these phenomena and causes from other phenomena and causes. The creation of new sciences is a process of first separation and then synthesis.

In human sciences we deal with human relationships. Now before human relationships of a certain sort are capable of forming a separate branch of knowledge there must be a sufficient number of them so that when set in order they will reveal truth and tell a

story. In economics we deal with human relationships that express themselves in value and exchange. In early society these relationships were too few and too inadequate to reveal significant truth. As time has gone on economic relationships among men have multiplied as we have escaped from primitive, self-sufficing economy and they influence profoundly our life in every way. Economics came into existence as a separate branch of knowledge in the latter part of the eighteenth century and as relationships of an economic character have gained increasing significance so economics has gained increasing significance.

Dr. David Starr Jordan, Chancellor-Emeritus of Stanford University, in an address gave the following brief definition of science that would apply to economics: "Science is human experience tested and set in order." Dr. Jordan said, furthermore, that it had three great purposes: (1) usefulness; (2) the foundation of ethics; (3) the development of the human mind. Economics stands the test given by Dr. Jordan.

Science wins ever new territory; its scope constantly expands, overcoming resistance. Law and medicine and economics illustrate this. Some discussions of what should properly be termed "science" have been fruitless. On account of the prominence of natural science during the nineteenth century, many have been inclined to limit science to this field. For this no good reason can be given. Some sciences are more exact than others; but in general as a science progresses it becomes more and more exact; but from the very nature of the fields of knowledge some may be more exact than others.

Sciences differ with respect to experimentation. Physics and chemistry are among the sciences that excel in the scope of experimentation, and experimentation gives a complete control that is difficult in dealing with human relations where the will of man enters in and where complexity knows scarcely any limit. Although we cannot have more than very limited control of experimentation in economics we are able to observe the effects of the experimentation that necessarily goes on in human affairs. At the same time it must be freely admitted that the complexity is so great that it is difficult to isolate definite forces so that we may see that they result

in certain definite effects. This is best illustrated in economics by the protective tariff. We observe a nation's progress under all sorts of arrangements governing international trade; but prejudice is so great that it has been impossible to reach agreement in regard to the exact consequences of various practices governing the regulation of international trade. Many other cases, however, have far greater simplicity. Impartial students, for example, observing the effects of labor legislation, have reached important conclusions which seem to answer practical purposes fairly well. The conclusion reached may be tried and results obtained.

The descriptive definition given of science above harmonizes with the best international usage and answers the purpose of a definition in a general treatise on economics. If we should go into detail in regard to all the methods of research dealing particularly with history and statistics and the theory of probabilities, we might write a separate volume and we certainly should be going beyond the scope of our present work.

Economics Treats of Man. — The supreme importance of man in the study of wealth has not always been appreciated by those who have expounded the science. Too often they have considered man simply as a producer of wealth, the one "by whom" the necessaries, conveniences, and luxuries of life are created, whereas the infinitely greater truth is that man is the one "for whom" they are all produced. Of course no one denies this truth, but one might almost as well deny it as to leave it out of account. The result of such neglect is that men devise with great skill rules by which man may be made the best possible manufacturing machine. It sometimes quite escapes the notice of these persons that in making man the best possible manufacturing machine they may make him a very poor sort of man; that in teaching him to supply his wants very bountifully they may prevent his developing and improving those same wants. They forget that there are two kinds of poverty — one a lack of goods for the higher wants, the other a lack of wants for the higher goods. To become rich in goods while losing at the same time the power to profit by them is unfortunately one of the commonest retrogressions in human experience. We do not mean that the whole problem of human development is the

subject of economics, but simply that those economic activities that have as their goal manhood, rounded human development, and the equitable organization of human relationships are central parts of the subject matter of our social sciences and no one should consider the subject so narrow as to exclude these subjects and objectives.

Economics Treats of Man as in Process of Development. — Few truths are more easily admitted or more persistently ignored than that of change in human life and condition. Nothing so invalidates theories, laws, general principles, institutions, and enterprises as this great law of change of which we seldom take full account. Take, for instance, bequests. It has often happened that a man has left a legacy under specified and detailed regulations, binding for all time. One leaves money to endow a religious service in a language which in a few generations no one understands; another founds a college to teach certain doctrines which in a century no one believes; and so on indefinitely. These and a thousand other laborious efforts of statesman, warrior, or philosopher quite lose their worth for the future because their authors assumed that the future would be like their present. Even the wages system and the division between capital and labor which seem rooted in the constitution of society have had real significance for scarcely more than two centuries. One must never forget in the study of economics that the phenomena with which it deals are pervaded by the spirit of life, moving forward or backward, progressing or decaying, under those influences which control the rise and fall of social institutions.

The evolutionary character and complexity of economic phenomena, which account for much of the charm of the subject, endow it also with unusual difficulties. Conclusions true for one generation are invalid in the next. Terms and definitions appropriate to one stage of industry are misleading in a succeeding stage. Generalizations valid for one nation and government are inapplicable to another. Even those laws or uniformities which the science prizes as the finest product of its research are but statements of probabilities — declarations of what is most likely to occur for the mass of men in the long run under certain specified circum-

stances. In no department of knowledge, consequently, is there greater need of temperate statement and of that humility of mind which is the surest safeguard against bigotry and dogmatism. No system of economics is applicable unchanged to all times and all places: the premises of the arguments change; the ingredients of nearly every problem present themselves in different proportions; and the conditions of almost every question vary, from country to country and from generation to generation. The student must not expect rules of thumb, by which he can decide offhand the economic problems of the city or country in which he is for the moment interested. No general treatise on economics can authoritatively decide the practical problems of particular times and places; although the economist, even more than other students, is forced to deal with practical problems. What such a treatise can do is to point out mistakes of logic common in the current discussions of economic questions, call attention to obscure factors — sometimes of great importance — which the practical man is likely to overlook, give solutions of typical problems which are likely to arise, and thus afford a training which will assist the student in solving practical problems for himself.

The peculiar and distinctive office of the economic scientist, however, is to emphasize the less tangible truths, the remoter consequences, the deeper and consequently less obvious forces of economic society. The impulses of the moment, the immediate demands of the hour, and the present "fact" that stares us in the face (and sometimes blinds us) are not likely to lack vigorous champions; and to preserve the balance there is need of a craft of thinkers far enough removed from the battle to preserve the wider outlook, mindful of the lessons of the past, jealous for the rights of the future, insistent upon the less obvious truths. This is why economics frequently appears academic or artificial to the practical man. This impression arises from a difference of emphasis which in the main is as salutary as it is inevitable. The academic quality of the economist's work arises sometimes from ignorance, sometimes from pedantry, but more frequently from his courageous insistence upon the importance of the less tangible truths and the distant consequences of present action.

The Relation of Economics to Ethics and Politics. — Economics is obviously one of the many social sciences which deal with the human relations arising out of the collective activities of man. Some writers define *sociology* as the all-embracing science of association and from this standpoint economics is a part of sociology or the general science of society.

The relations between economics, ethics, and politics are particularly important. In general the economist refrains from expressing ethical or political judgment. His special task is not to decide practical problems but to classify the economic aspects of such problems. The final judgment in practical affairs is a synthesis in which economic, political, moral and many other considerations must be combined. The economist speaks with no special authority on moral and political questions. Because of the limitations of the human mind man cannot profitably study things in general. Scientific progress, like industrial progress, comes largely through specialization and the division of labor.

But economics deals with the individual as he is and not with an artificially simplified economic man. On this account it is impossible wholly to dissociate the social sciences, and particularly impossible to divorce economics completely from ethics and politics. In the consideration of railway rates, for instance, the economist may be compelled to pass judgment on what is just and reasonable, and may discover upon investigation that what is fair and reasonable depends largely upon economic considerations. The same is true of the apportionment of taxes in which subject ethical, legal, and economic questions are inextricably interwoven. Commercial policies, restrictive regulations, and sumptuary laws have been the very stuff and subject-matter of the science of economics from its first beginning. In analyzing the progress of the past or the conditions of the present, we are forced to pass judgment upon the success or failure of many laws and policies which are still in force or under active discussion. Many of these must be indorsed or repudiated either solely or largely upon economic grounds; and because of these facts, the economist cannot, even if he would, refrain from passing judgment upon laws and political policies. Nevertheless, as was stated before, economics does not undertake

the complete and systematic study of law, ethics, and politics, and its conclusions must almost always be supplemented by non-economic considerations which the economist may not have taken into account.

Social Foundations of the Present Economic System. — It is plain from what has been said above that economics as a practical subject is profoundly influenced by the fundamental legal and other social conditions underlying modern life. For the most part, a knowledge of these fundamentals must be assumed. It is impossible to provide here an adequate discussion of such subjects as private property, inheritance, custom, contract, competition, monopoly, vested interests, representative government, and the other legal or social foundations of modern life. A few of these fundamental institutions are mentioned, however, principally to emphasize the dominating influence which they exert upon economic life and science in the present era.

Private Enterprise and State Activity. — We live in an age when private enterprise, for the most part, is relied upon to furnish us with the necessities and enjoyments of life. The cultivation of the soil, the exploitation of the mines, transport, the various stages of manufacture, and the distribution of the finished product are all left mainly to private initiative. The discovery of new processes, invention, and experimentation are carried on mostly by private individuals or corporations which take upon their own shoulders the risk of failure. The State, on the other hand, participates in this activity in a variety of ways. It maintains order, promotes public health and safety, provides roads, and takes complete charge of some industries. In the vast majority of the enterprises with which we are familiar, private and public activities are combined in varying proportions.

Let us take the case of an industry which is as nearly private, perhaps, as any we can find — agriculture — and notice the part which public activities play in securing the farmer's results. First, we may say that the farmer owns the farm that he cultivates; it is private property. But how comes it that the farm is his? Why does not a stronger man drive him off and take the farm himself? Plainly because the State protects him in the possession of

the farm. When he bought the farm, he took his deed to a government official, who recorded it, and thus gave him an additional guarantee of possession. A neighbor's dog kills his sheep, and an appeal to the State compels the neighbor to redress the grievance. Another dams a river far below and backs the water up so that it overflows his land. Another appeal to the State removes the dam or secures compensation. When wheat is raised, the farmer hauls it to the railway on a road built, not by private, but by public, activity. If the railway charges too much to transport the wheat to market, the government again interferes in his behalf. But manifold and important as are the regulations of the government, state activity seems very much restricted when we reflect that it might extend over the entire industrial field. At the present time private, rather than public, enterprise is the distinctive characteristic of our economic life.

Private Property. — Private property is the most important foundation stone of this system of private enterprise. For our present purpose we may define property as the exclusive control over valuable things by private persons. It is to be distinguished from mere possession. The possessor has the use of the thing for the time being, but unless he is at the same time the owner, he is dependent upon the will of another for the use of it. Ownership implies the right of excluding other persons from the employment of a thing. The exclusive right must be recognized and guaranteed effectively by third parties. If the exclusive right of control over some valuable thing is asserted simply by the strength of one's right arm, the right of private property is not thereby established. The exclusive right of control must be recognized by others and must be maintained by them. Over against private property we have public property, and there are some things, such as air, which fall in neither of these categories.

The right of private property is one so fundamental in our modern life that it is frequently felt to be an ultimate right, a gift of nature, rather than a creation of man, maintained by constant vigilance, and subject to human modification. When a custom has obtained very widely and is deeply rooted in human life there is often a tendency to claim it as a "natural right." But the right

of private property as we know it now did not always exist. It has not always been so extensive or exclusive as at present. This is especially significant in the case of individuals, whose claims as opposed to those of the tribe were at first slight and vague; but these claims gradually grew, especially in the case of the chieftain, until tribal or communal rights broke down before them. The time was when a Scottish clan had absolute right to the territory occupied, and no chieftain, however powerful, could have abridged that right. Now there are beautiful tracts of country in Scotland which are almost denuded of their agricultural population because the owners, the descendants of these same chieftains, preferred to raise game on their estates.

The modern State is continually placing limitations and restrictions on the right of private property. Our cities regulate the height of buildings and prescribe the material from which they must be made and the kind of plumbing which must be installed. Restrictions of the uses to which land may be put are increasingly common, and no one can use his property in ways that constitute a public "nuisance." The nature and extent of these changes in private property must be controlled by the State in the public interest. How far interference with the right is justified cannot be discussed in general terms: such a discussion must deal with the specific problems of municipal ownership, railway regulation and so forth. The point to be emphasized here is that in solving such problems the mere fact that a proposed solution restricts or enlarges the right of private property cannot in itself be given much weight.

Contract. — Hardly second in importance to the right of private property is the right of contract, for the maintenance of which we are equally dependent on the State. Some sort of contract lies at the basis of all associated activity. To secure the condition of such activity, it is necessary, first, that men should be allowed to bind themselves; and, second, that they should be compelled to abide by the agreement thus entered into. The entrance into a valid contract is ordinarily voluntary, but once entered into with due formality, the State will use its superior power to enforce it. Laws frequently regulate contract in the general interest. This

is especially marked in labor legislation, which will be discussed in another chapter. Certain types of contracts cannot be enforced by law, because they are held to be against public policy, as, for example, gambling contracts and contracts in restraint of trade. In some cases statutes make it illegal to enter into such contracts.

Freedom. — The freedom to do certain things, such as moving from one part of the country to another, choosing one's own occupation, and acquiring property, is legally guaranteed. Such freedom, together with the absence of slavery and of imprisonment for debt, are characteristic features of the present economic order as distinguished from past conditions. The right to manufacture and sell what and when one pleases is comparatively recent. It has often been greatly limited by despotic governments, and has been made a matter of sale for the purpose of raising revenue. Our own time has seen the abolition of an immense number of hampering and vexatious restrictions often designed for extortion rather than for the promotion of private enterprise.

Restrictive laws, however, are not the only limitations on economic freedom. The system of private property itself means that certain individuals in the community have power to command other people to work, and the lack of an income under our present régime implies the lack of the real freedom to do things. The high price of a railway ticket may be quite as effective as a legal barrier would be in preventing movement from one state to another. We say that involuntary servitude, except as punishment for crime, has been abolished, yet men are compelled to work by the threat of economic distress, in most cases quite as effectively as by means of the slave-driver's whip. Again, the choice of an occupation is free according to the law, but we may find that a long and expensive course of training is necessary, or that trade-unions effectively limit the number who can learn a given trade. The right to establish enterprises is granted to all alike according to the law, but today most persons would find it difficult and hazardous to embark upon the refining of oil or the manufacture of steel.

This leads us to a distinction between what have been called negative freedom and positive freedom. Mere absence of restraint (negative freedom) is one thing, and the power to develop our

activities to the fullest extent (positive freedom) is a very different thing. Legal restrictions may actually be the means of increasing positive freedom. Thus, a library placed at the disposal of the public without rule or regulation would result in a smaller total utilization of the books than one in which the observance of certain rules is strictly enforced. All laws which limit the power of the strong to oppress and which help to open the gates of opportunity to all must of necessity increase positive freedom. The newer ideal of freedom aims at the development of such social arrangements that sane and complete lives will be possible for the largest number of persons.

Competition. — Our economic society is often called "competitive." The kind of competition which is distinctive of the present economic order is the all-pervading endeavor to obtain the largest possible amount of wealth in exchange for commodities produced or services rendered. If we except the idlers, the parasites, and the cheats, men are everywhere endeavoring to discover what other people urgently want, and then to satisfy these wants in the most efficient manner possible. Moreover, they attempt to give as little as possible of their own products in exchange for the things they themselves desire. Business competition thus has two sides: rivalry in rendering a service, and alertness in exacting a return. Each individual takes part in the competitive contest in two ways: first, as a seller of goods or services, in which case he finds that others are anxious to render the same service; and second, as a buyer of the things he wants, in which case he finds that these same things are sought by other people.

The intensity of the competitive struggle is subject to great variation. At times it may be characterized as cutthroat, where the slashing of prices has for its object the elimination of one or more contestants. But the State sets limits to the rivalry. It makes regulations and acts as an umpire for fair play. It attempts to eliminate fraud and brute force. Libellous and fraudulent statements about a competitor's business are illegal. So are efforts to induce his customers or employees to break their contracts with him. Competition designed to drive a rival out of business is illegal, whatever its methods, if it is prompted by sheer malice or

is part of an effort to establish a monopoly. Business men endeavor so far as possible to shelter themselves from the effects of the competitive struggle by means of some privilege or by creating a market for their special brands. But if no such shelter is to be found and competition becomes very keen they endeavor to combine with other business men.

The subjects of unfair competition and monopoly are discussed at greater length in Chapter XXVII. In general, however, competition holds its own. In most lines of endeavor many competitors continue to exist side by side indefinitely, each being confronted by the ever present threat that, if his service becomes very poor, some other man will out-strip him. Various as may be the character of competition, now predatory, now friendly rivalry, there is no resting place in the contest unless one secures some special privilege as a shelter. He who is energetic, and wins success in a certain line of business must continue to defend himself from a host of imitators who are anxious to snatch his gains from him. Most of the competitors are successful in getting something, some more than others, but many fail altogether. These last, the inefficient, whether made so by sickness, by inherited weakness, or by lack of proper training, fall by the wayside and must be cared for by private charity or by the State.

Coöperation. — The statement that our age is one of competition is misleading if it gives the impression that every individual is always struggling against all of his fellows. On the contrary, the achievements of modern industrial civilization would be impossible without a far-reaching coöperation between individuals.

Employers and employees may quarrel and bargain about the wage contract, but when they have settled their relations for a week or a year, they become coöperators for that period in the conduct of the business enterprise in which they are engaged. Again, there is an unconscious coöperation between those who work upon a commodity in the different stages of the process from raw material to finished product. *The division of labor itself is cooperation on a splendid scale.* Competition merely determines the conditions on which the coöperation takes place. If these conditions could be determined in some other manner, it would

be possible to conceive of the elimination of competition from our industrial system, but coöperation itself is so vital and fundamental that its elimination would mean a return to barbarism.

Division of Labor and Exchange. — Finally we may note as a most significant characteristic of the present economic order, the extent to which it is dominated by division of labor and exchange. Hardly any civilization seems possible without some industrial specialization, but our own age is peculiar with respect to the extent to which this has been carried. The introduction of machinery and the development of large-scale production have split up the work of men so minutely that the products which they turn out are not only of no immediate use to themselves in most cases, but they are also useless to any one else until combined with the results of other men's labor, often performed years before or afterwards. It is a long and complicated process from the man who mines the ore which is to reappear in a steel plow, to the man who bakes the bread. This specialization of employment has some far-reaching results:

(1) It implies the exchange of goods. If we produce things we do not need, we must find some one else who does want them and some one who has things we desire. Money, banks, and agencies of transport could largely be dispensed with if each family produced for itself alone. There would be none of the complex problems that center about the question how much each of us is to receive in exchange for his services. One of the striking characteristics of this process of exchange is the great extent to which it is automatic. No government official has the task of discovering how much of each commodity will be needed, and of directing that just that amount shall be produced.[1] Men are legally allowed to engage in almost any undertaking that attracts them, and yet we take it for granted that somehow things will get produced in the proper proportions. A hundred men are set to work in a factory making nothing but hats, many more than they or their friends can use, but the manager has faith that heads will be found to

[1] The government does help, however, by collecting and publishing information such as crop reports, statistics of mining and manufacturing production, consular reports as to opportunities in foreign markets, and in various other ways.

wear them all. Farmers confidently proceed to raise wheat, never troubling themselves about the grinding and baking. These processes go on visibly before us, but the governing laws are hidden except to the careful investigator. In this respect they are like the laws of physiology. We eat and digest our food, but how many people know how or why digestion takes place?

(2) Specialization of work and exchange of goods necessarily imply mutual dependence. Instead of a number of distinct, self-sufficient units, we have a coherent society where one individual relies upon many others to complete his own one-sided economic activity. A strike of street-car employees, or of teamsters, or the destruction of an electric lighting plant, sends a shock of inconvenience through a community. A prolonged railway strike is felt as a national misfortune. Indeed, this interdependence is international in its scope. England relies on other nations to send her food in exchange for manufactured products, and many a European workman would be in distress if our exports of cotton or copper should suddenly cease. The World War, by suddenly cutting off the channels of international commerce, showed how dependent the nations of the world are upon each other. Thrown back more largely upon their own resources, the peoples of many countries came to realize for the first time how much more limited and confined their economic life would be, how some of the essentials of comfortable living would either be wholly lacking or obtainable only at extremely high costs, if it were not for international exchange and international division of labor. The United States is more self-sufficient economically than many other nations, but we are nevertheless dependent upon international trading for our supplies of many things.

(3) Modern exchanges are effected by and through the medium of money and credit, and this medium colors and modifies the terms or conditions of exchange. We live in a pecuniary society in the study of which it is as misleading to ignore as to exaggerate the ubiquitous rôle of money.

Specialization and an amazing complexity of competitive cooperation carried out through monetary exchange, along with the social interdependence which they create, are among the most

pervasive and distinctive characteristics of the present economic order. They also determine the essential nature of economics. *It is above all a science of human relations.* This important truth should be noted by those readers who assume that because economics is "practical," it is also concrete and material. On the contrary its subject matter is largely intangible and its conclusions largely abstract. It is the business man, the engineer, the factory inspector, for instance, who are particularly interested in the mechanical and material aspects of factories and machinery. The economist as such is specially concerned with such questions as the influence of factories and machinery upon wages, hours of labor, unemployment, cost of production, prices and profits, in short upon relationships between men as affected by the material conditions under which they earn their living.

Principal Divisions of Economics. — The foregoing considerations explain the order in which the subject is developed. Book I traces rapidly the evolution of the present economic order. Book II analyzes the essential functions and operations of that order, following the traditional division of the subject into the production, consumption, exchange, and distribution of wealth. These subjects are treated in close connection with certain illustrative economic problems of which the so-called "economic theory" is but a more comprehensive and consequently more abstract analysis. A number of problems, particularly those which involve the regulation of industry by the State, are grouped together in Book III; and Book IV has been reserved for the subject of public finance. Books III and IV, accordingly, are devoted largely to that part of the general subject of economics which may appropriately be called "political economy." Book IV is followed by an appendix which gives a brief sketch of the history of economic thought.

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CHAPTER II

THE EVOLUTION OF ECONOMIC SOCIFTY

The Economic Stages. — Many attempts have been made to describe briefly the different stages through which mankind has passed in arriving at modern industrial civilization. Sir Henry Maine, interested especially in the legal foundations of society, summed up his conclusions in a "law" of progression from a prevailing condition of status to one of contract. Herbert Spencer found the most significant movement in the evolution from militant to industrial society. Some archeologists and historians looking to the profoundly important factor of weapons and tools have traced a development from the age of stone through the age of bronze to the latest age of iron and steel.

Among economists there was current for many years a traditional classification which began with the (1) hunting and fishing stage (or the stage of direct appropriation), and traced successively to (2) the pastoral stage; (3) the agricultural stage; (4) the handicraft stage; and (5) the industrial stage. This classification proceeded from the standpoint of production and was based upon the increasing power of man over nature. Other economists looking to exchange rather than production have traced the development from (1) the barter economy to (2) the money economy and (3) the credit economy. A broad survey envisaging not only production and exchange but the general organization of economic society, emphasizes as the most important line of progress the evolution from (1) the independent or household economy through (2) the town or village economy to (3) the national or capitalistic economy of the present era. Other economists finally, regarding the condition of the worker as more important than methods of production or exchange, have emphasized the importance of the following stages: (1) laboring classes not differentiated; (2) slavery

and serfdom; (3) free labor governed by custom; (4) individual contract; (5) group contract or collective bargaining.

These summary statements have both the defects and merits of all sweeping historical generalizations. They are for the most part composite pictures of many different communities, and summaries of usual development rather than accurate descriptions of the development of civilization in any one region. For instance, a certain type of agriculture (hoe culture) preceded the pastoral stage among many, if not most tribes; and in many parts of the world the inhabitants never passed through the pastoral stage at all. In general also, the transition from one stage to the next was very gradual. In most cases the new stage was merely grafted on to the old; it did not replace it. Accordingly the name given to any particular stage aims to represent the predominant and not the exclusive type of economy in that stage. Thus the credit economy has never wholly displaced the money economy; and agriculture — which has now lost its dominant importance in the most advanced countries of the world — will probably never cease to be a powerful and important factor in most great nations.

Properly interpreted, however, these classifications fulfill a real service. They give us bird's-eye views of the economic ascent of man. They emphasize by their brevity and sharp contrasts how far and by what different paths mankind has come to the complex industrial society in which we find ourselves today. The various classifications are not contradictory. On the contrary they supplement one another.

Economics, it will be recalled, is not a study of the technique of production but a study of human relations or *social phenomena* due to the wealth getting and wealth using activities of man. On that account we are disposed to emphasize as the most distinctively economic classification that which traces the development from an independent or household economy to the broad national or international economy of the capitalistic type which prevails today. The earlier part of the old traditional classification is probably erroneous where it traces a historical sequence from the hunting and fishing stage, to the pastoral stage, to the agricultural stage. The latter part of that classification, however, is essentially correct

from the standpoint of methods of production, and we have used it in conjunction with the wider classification delineating the essential character of the prevailing economy. This broader classification is significant from the standpoint of production. Capitalistic or mass production, we now freely recognize, depends upon broad markets and a national or international economy. The two are parts of the same progress towards specialization or division of labor. In sketching briefly the development of the capitalistic economy we shall confine our treatment to conditions in England and the United States.

TABLE I

THE ECONOMIC STAGES

FROM THE STANDPOINT OF PRODUCTION	FROM THE STANDPOINT OF THE GENERAL ECONOMIC ORGANIZATION	FROM THE STANDPOINT OF EXCHANGE	FROM THE LABOR STANDPOINT
1. Direct appropriation	Independent		
2. Pastoral	Household economy	Barter economy	Laboring class not differentiated Slavery and serfdom
3. Agricultural	Village economy		
4. Handicraft		Money economy	Free labor governed by custom
5. Industrial	National or capitalistic economy	Credit economy	Individual contract Group contract

THE INDEPENDENT OR HOUSEHOLD ECONOMY

This type of economic organization — in many different forms and in units of varying size — seems to have been nearly universal in the stage of direct appropriation and the early pastoral and agricultural stages. Its essential characteristics are isolation and economic self-sufficiency. Goods are produced not for sale, but to be consumed by the producing unit. There may be a considerable

division of labor in the household, on the " estate " or plantation, or in the patriarchal unit of society; but there is little or no production for exchange. Commercial intercourse is slight. Money plays an unimportant rôle. There is no clear-cut wage system among the producers, but slavery or serfdom is common although not universal. This stage in a later form is well represented by the Manorial Economy of England.

The Manorial Economy in England. — England was almost wholly agricultural for three centuries following the Norman Conquest. In the thirteenth century the population for the most part lived in villages or manors, each controlled by a lord to whom the rest of the inhabitants were bound by customary rules to render certain assistance, as in the cultivation of his land. The villagers were of various classes, according to the amount of land which they held and according to the services which they were required to perform. The land of each tenant was not a compact area, but was composed of strips scattered in the three great fields into which the arable land was divided for purposes of crop rotation. Some handicraftsmen were also found upon the estate, but they did not occupy an important place in the economy of the village.

The manors were largely self-sufficient in their economic life. There was, to be sure, some trade. England exported raw products to the continent and received back some of the finer manufactured articles. But the ordinary needs of the very frugal life which the tenants had to live were supplied by products of the manor itself. During the centuries following the Norman Conquest important changes took place in the manorial system: (1) a rapid growth in the number of free tenants; (2) the commutation of customary services into fixed payments in money or kind; (3) the appearance of a class of agricultural laborers dependent on the wages which they received.

The Village Economy

Under the great feudal lords of England the self-sufficing manorial units in many cases became large and powerful, and some of them acquired mineral rights, ports and other natural advantages in the exploitation of which it became easy to produce a surplus. The

self-sufficing units began to specialize in those things in which they had the greatest natural advantages, as the American plantation of Colonial days specialized in the production of cotton and tobacco. Some barter or exchange between the household unit and the outside world had always existed since the days of primitive man, but as the production of surplus products became more systematic, they were regularly exchanged for outside or foreign products. Exchange or contractual relationships developed within the group. The serfs became wage earners or traders.

The Gild System. — The growth of trade brought with it the merchant gild, the purpose of which was to regulate the conduct of trade and to keep a monopoly of it for the merchants of the town. Merchant gilds appeared in all the larger towns of England in the twelfth century. But a new class was developing in the towns, consisting of the craftsmen who were engaged in the making of things for sale. As this handicraft grew in importance, the merchant gild was superseded by the craft gild, which in England attained its fullest development in the first half of the fourteenth century. Each craft had its gild, which specified in detail how the business should be carried on, how many should be admitted to it, and how the trade should be learned. This growth in specialization accompanied a growth in trade, but in this early part of the handicraft period, commerce was much restricted as compared with that of the present day. The towns made exchanges mostly with the country surrounding them, there being as yet no national or world market of any importance. With the use of a general system of exchange the use of money became increasingly important.

The agricultural stage had in the greater part of Europe culminated in the feudal system. The nobility maintained order and attended to the fighting while the serfs tilled the soil. The manufacturing cities became the rivals of the feudal lords, who felt their power threatened, and hence they bitterly opposed the cities. The cities were free, and the serfs who fled to them were accepted and made freemen.

The Domestic System. — With the beginning of the modern period the town system gave way to a larger economy. The towns lost the control of trade. The gild system was gradually succeeded

by the domestic or " putting-out " system, which developed in the sixteenth and seventeenth centuries and was a characteristic feature of English industry until the middle of the eighteenth century. As in the gild system, industry was carried on by hand in a small way, but the functions of merchant and workman were now separated. The gild master sold the goods which he produced in his shop directly to the customers who were to use the goods, but under the domestic system the workman came to be less independent. He received the raw material from a middleman, to whom also he delivered the finished product. Much of this work was done outside of the towns, the artisans thus being enabled to devote part of their time to agriculture. Defoe, in his tour through Great Britain (1724–1726), describes the methods employed as follows:

[The land] was divided into small inclosures from two acres to six or seven each, seldom more; every three or four pieces of land had an house belonging to them, . . . hardly an house standing out of a speaking distance from another. . . . We could see at every house a tenter, and on almost every tenter a piece of cloth or kersie or shaloon. . . . At every considerable house was a manufactury. . . . Every clothier keeps one horse, at least, to carry his manufactures to the market, and every one generally keeps a cow or two or more for his family. By this means the small pieces of inclosed land about each house are occupied, for they scarce sow corn enough to feed their poultry. . . . The houses are full of lusty fellows, some at the dye-vat, some at the looms, others dressing the cloths; the women or children carding or spinning, being all employed, from the youngest to the oldest.

Agricultural Changes. — Many important changes in the agriculture of England took place during this stage. The most prominent of these is the process called inclosure. Under the manorial system the lands in the common fields were the property of a landlord, but his rights were not exclusive and were qualified by rights of the tenants. There existed a certain kind of partnership of landlord and tenant in the cultivation of the land. Inclosure is the term used to designate the dissolution of the partnership, or the separation of rights. After inclosure the tenant generally had a farm which was in one piece of land, instead of being in scattered strips in different fields, and for this he paid usually a definite money rent. The farmer could make improvements on his own account, which was impossible when he held scattered strips in great fields.

Inclosures were made during this whole period and especially during the Tudor period. Farms became larger and when labor was scarce and wages high, sheep farming, requiring few laborers, was rapidly extended.

Inclosures resulted in great agricultural improvement, but at the same time they were frequently attended with hardship for the poorer people. Sometimes the common rights, especially those of common pasturage, were not fully paid for, although the rule was that of compensation. But the result was to separate many people from the land; and frequently the payment received by the poorer people was wasted. The right to pasture a cow meant a definite connection with the soil; the money received in payment for this right might quickly disappear. Even now in English villages it is possible to find those who receive small sums for ancient rights, and these are too often used in dissipation. In Epworth, England, the villagers formerly had a right to cut turf in a field which is now let for a money rent, and this is used to buy coal which is distributed among the people in payment of their ancient rights.

The Mercantile System. — The decay of town authority did not mean that industry and commerce were left to the free play of competition. The supervision of the central government took the place of that of the towns. The national system of regulation which prevailed in England (and in other countries) from the sixteenth century to the nineteenth has been called the Mercantile System. Its essential idea was the guidance of economic affairs in such a way as to increase the commercial and military power of the nation as a whole. The navigation laws which the student has met with in his study of American history were a part of this system. An attempt was made to create a "favorable" balance of trade and to maintain a good supply of the precious metals. Agriculture was fostered with the aim of promoting the growth of population. The mercantile system has often been described as consisting chiefly of trade restrictions, but it is the contention of Professor Schmoller that in its essence the system meant "the replacing of a local and territorial economic policy by that of the national state."

It was characteristic of the mercantile system, too, to interfere in the conduct of internal trade. Prices, wages, and the rules of

apprenticeship were fixed by public authority. The quality of goods was inspected by public officials. Patents of monopoly on the sale of certain commodities, such as gunpowder, matches, and playing cards, were extensively granted by royal authority to favored individuals or companies, ostensibly to foster new industries.

A full account of this stage in English history would deal with (1) the regulation of labor, in a way which was, on the whole, distinctly oppressive, and inspired by the purpose of making labor cheap and laborers subservient; (2) the development of systematic poor relief by civil authority; (3) the encouragement of shipping and of (4) the immigration of foreign artisans to introduce new industries; (5) the regulation of the grain trade; (6) the establishing of "plantations" in the colonies; (7) the regulation of the coinage; (8) the development of banking, insurance, and foreign commerce, and the decay of the old notions regarding the sinfulness of interest taking.

The National or Capitalistic Economy

In the latter part of the eighteenth century, the preceding methods of production — the handicraft and domestic systems — were radically changed by the Industrial Revolution. The fundamental feature of this change is the introduction of power manufacture. The significance of the Industrial Revolution is so great that the following chapter is devoted to it and its more important consequences and reactions. To understand the nature of this revolutionary change, it will be helpful to review briefly conditions existing before it began.

England in 1760. — England at this time was largely self-sufficing in its economic life, producing for itself its food and other articles of ordinary consumption, although compared with medieval days there had been a marked expansion of international and colonial trade. Woolen goods were the most important export. The imports consisted largely of wines, spirits, rice, sugar, coffee, oil, and furs, and some wool, hemp, silk, and linen yarn. Within the nation there was no such degree of specialization of industry in particular localities as is found at the present day, although the beginnings of

localization had been made in the textile and iron industries. The means of transport were exceedingly poor, notwithstanding the growth of turnpike roads. The roads, described by a traveler as "most execrably vile," were such that pack horses remained common means of getting goods to market. Rivers were important highways, canal building having barely begun.

Hand manufacture was still general. Although the workmen under the domestic or putting-out system did not own the material upon which they worked, yet the tools they used were generally their property. The beginnings of the factory system, however, are to be seen long before the use of power machinery, for in some cases workmen were employed in large numbers in buildings owned by the employer, who also furnished the mechanical equipment. But very generally manufacturing was combined with agriculture, not only in the textile trades, but in other branches also. "At West Bromwich, a chief center of the metal trade, agriculture was still carried on as a subsidiary pursuit by the metal workers."

The medieval system of common field tillage was still extensively used, a large part of the land being still uninclosed. The soil was poorly cultivated, but important experiments tending toward a "new agriculture" were being made in the second quarter of the eighteenth century by Jethro Tull and "Turnip" Townshend. Of the whole number of farms, approximately one half "were owned and occupied by the various classes of freeholders and copyholders; that is, by land-owning farmers."

The mercantile system and the old views of the relation of government to industry were still dominant. Detailed and special legislation was supposed to be the means of securing a well-ordered trade. But a tremendous revolt had begun against this whole system. This revolt had its religious and political as well as its economic aspect. The same year that Thomas Jefferson wrote the Declaration of Independence, asserting that all men are by nature equal, Adam Smith published the *Wealth of Nations*, the most influential book ever written on economics. Adam Smith claimed that:

> Every individual is continually exerting himself to find out the most advantageous employment for whatever capital he can command. It is his own

advantage, indeed, and not that of the society, which he has in view. But the study of his own advantage, naturally, or rather necessarily, leads him to prefer that employment which is most advantageous to society. . . . What is the species of domestic industry which his capital can employ, and of which the produce is likely to be of the greatest value, every individual, it is evident, can, in his local situation, judge much better than any statesman or lawgiver can for him.[1]

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[1] Adam Smith, *Wealth of Nations*. The Macmillan Co., New York, 1904. (Cannan ed.). Book IV, Chap. II.

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CHAPTER III

THE EVOLUTION OF ECONOMIC SOCIETY (*Continued*)

The Industrial Revolution. — The passage from the handicraft to the factory system in England is generally known as the Industrial Revolution. It has been objected that this term is misleading because the introduction of the modern factory system required many years and was but the working out of conditions that had been long maturing. It is true that the growth in the division of labor, the technical progress of former ages, and, most of all, the growth of commerce and the expansion of markets, were necessary preliminaries, but there is little danger of overemphasizing the importance or the rapidity of the change. The period from 1770 to 1840, the span of a single life, is, after all, a short period from the standpoint of the historian. Yet the changes of this period swept away methods of production that had been used for centuries, and caused profound modifications in social structure.

The Mechanical Inventions. — During the last half of the eighteenth century the progress of invention was exceptionally rapid. Kay's flying shuttle (1738) had facilitated the weaving process to such an extent that it became difficult to secure enough yarn from the spinners. Hand spinning was improved by Hargreaves' "jenny" about 1767; Arkwright, in 1771, made a practical success of roller spinning (a method patented long before), using horse power, and later, water power. Crompton combined these two processes in 1779. After 1785 steam power was applied to cotton spinning, and then it was the weaving process that was felt to be too slow. Cartwright began experiments in 1784, but his power loom did not come into general use until early in the nineteenth century. The improvement in the steam engine also made possible great advances in the iron industry, of fundamental importance in an age of machinery. Improvements in the blast furnace made it

possible to use coal or coke in smelting iron in place of charcoal, the supplies of which were rapidly diminishing. The production of English iron was over seventy-five times as great in 1840 as it had been in 1740.

The need for better transport was met by improved roads, by the building of canals (especially 1790 to 1805), and by the development of steam locomotion. Cast iron rails were used in tramways in coal mines as early as 1738. Trevithick made a locomotive in 1803 that was of practical use. The Stockton and Darlington road was opened in 1825 with a Stephenson locomotive that made fifteen miles an hour, but two years later the directors of the road considered the advisability of abandoning the use of locomotives. In 1829 the directors of the Liverpool and Manchester Railway arranged a prize contest to determine the practicability of steam locomotion. The success of Stephenson's "Rocket" in meeting the requirements of the contest demonstrated that the new method of locomotion had come to stay.

A general survey of the growth of new industrial methods in the textile and iron industries marks out three periods of abnormal activity in the evolution of modern industry. The first is 1780–1795, when the fruits of early inventions were ripened by the effective application of steam to the machine industries. The second is 1830 to 1845, when industry, reviving after the European strife, utilized more widely the new inventions, and expanded under the stimulus of steam locomotion. The third is 1856–1866 (*circa*), when the construction of machinery by machinery became the settled rule of industry.[1]

Agricultural Changes. — During the Industrial Revolution there were also important changes in agriculture. Bakewell, in the second half of the eighteenth century, improved the breeds of sheep and cattle. The inclosing of the common fields proceeded with great rapidity, not, as in the sixteenth century, for the purpose of sheep raising, but to permit of more efficient tillage of the soil. Between 1760 and 1850 over seven million acres were inclosed in England. The small land-owning farmer was crowded out, partly because more investment per acre was needed with the new agriculture, partly because "gentlemen farmers" (men who had made money in other pursuits and took up agriculture because it was

[1] Hobson, *Evolution of Modern Capitalism* (C. Scribner's Sons, New York, 1907), p. 89.

fashionable) bought them out, and because the price of land was greatly increased by the desire of wealthy men to build up family estates. Today nearly all English farmers are tenants. The small farmer, who under the domestic system was also frequently a handicraftsman, was thus crushed between the new agriculture and the new industry.

The new system of farming required large holdings, to which a new class of tenant of superior education and intelligence was attracted. It was on these holdings that capital could be expended to the greatest advantage, that meat and corn could be grown in the largest quantities, that most use could be made of those mechanical aids which cheapened production. Costly improvements could not be carried out by small hand-to-mouth occupiers, even if their obstinate adherence to antiquated methods would have allowed them to contemplate the possibility of change.[2]

Effects of the Industrial Revolution. — Along with the new opportunities brought by the Industrial Revolution came also new dangers and perplexing problems.

1. The Factory System. — The factory supplanted the home as the typical center of production. Instead of working by themselves or with a few assistants, men had to congregate in cities, and submit to a new discipline in large groups organized for purposes of production. This brought with it a new division of society into classes. The machine and the workshop, like the raw material and the product, are at no stage in the productive process owned by the men who do the manual work. The masses become wage earners. Now, in some industries not one in a hundred can by exceptional ability become an independent employer. The average workman knows that he is a workman for life. So we have now two industrial classes, laborers and capitalists, with a gulf between, which comparatively few can cross, and with interests which often seem irreconcilable.

2. The Expansion of Markets and Industrial Specialization. — Restricted local markets have been replaced by national and even world markets. Improved transport makes it possible for different industries to be localized in regions where raw materials or power are close at hand. But with greater economic interdependence there

[2] Rowland E. Prothero (Lord Ernle), *English Farming, Past and Present* (Longmans, Green and Co., New York, 1919, 2d ed.), p. 215.

has come greater liability to economic fluctuations and disturbances. One advantage of the old slow-going system of manufacture and trade was its stability. As the area of the market increases, manufactures find it more difficult to decide what and how much to produce. Trade fluctuations have increased in severity with the growth of large-scale production. The changing and enlarging demand cannot always be calculated. Manufacture is constantly being disturbed by improvements which cannot be foreseen. Possibly a still larger scale of manufacture will bring greater steadiness in industry, but as things are, the effect of industrial fluctuations upon the wage earner is apt to be demoralizing. If he were wise enough to save his earnings during good times, and so have something for hard times, he would not suffer so much. But relatively few people who live in abundance can do this; how much less those whose condition even in good times is one of meager comfort!

Evils of the Transitional Period. — The condition of the English working classes in the latter part of the eighteenth and early nineteenth centuries was probably worse than in any other period in the history of the country. It is difficult to say to what extent this was due to the introduction of the factory system. There is some evidence that the condition of child workers under the domestic or putting-out system was often worse than in the factories, their parents proving the hardest taskmasters.

> The evils and horrors of the industrial revolution are often vaguely ascribed to the "transition" stage brought about by the development of machinery and the consequent "upheaval." But the more we look into the matter, the more convinced we become that the factory system and machinery merely took what they found, and that the lines on which the industrial revolution actually worked itself out cannot be explained by the progress of material civilization alone; rather, the disregard of child-life, the greed of child-labour, and the maladministration of the poor law had, during the eighteenth century, and probably much farther back still, been preparing the human material that was to be so mercilessly exploited.[3]

But whatever the causes, the facts that have been revealed regarding the conditions in English mines and factories of this period are amazing. Cruelty to apprentice children, excessive hours, and

[3] Hutchins and Harrison, *A History of Factory Legislation* (P. S. King, London, 1926, 3d ed.), p. 13.

unhealthful conditions of work were common. The evils were worst in the smaller factories, the owners of which were hard pressed by relentless competition. Outside of the factories those who, like the hand-loom weavers, attempted to continue to work in their homes in the old way suffered from irregular employment and low earnings.

Competition and Laissez-Faire. — We have seen that Adam Smith advocated liberty. He asserted that as a general rule every man, if allowed to do as he pleased, would sooner or later do that for which he was best fitted, and would consequently work where he could get the most wages. Every man would buy what suited him best, and, after some experiments, manufacturers would make what was called for. If one line of work was more profitable than another, more men would go into it and by their competition would bring prices down. If men cheated their customers, the customers would go elsewhere, and cheating would not pay. Everywhere men would look out for their own interests and would make the bargain that was most advantageous to themselves. This system of balanced self-interests resulting from competition was the best regulator possible, infinitely better, he claimed, than the old-time laws, which only incumbered the development of industry. If the policy of industrial freedom were adopted, there would be, he prophesied, a great increase in the production of wealth.

While Adam Smith made significant exceptions to the general rule of *laissez-faire*, many of his followers, less careful and less scholarly, were reluctant to qualify their advocacy of the system of *laissez-faire;* and this doctrine gained favor during the Industrial Revolution. Not that a wholesale repeal of the old laws occurred — such things never happen in England, and are difficult anywhere — but there is a quiet and effective way of changing laws by changing men's ideas regarding them and leaving them unenforced. A law that has been long observed has often to be long dead before people gain the courage to repeal it. So the law requiring seven years' apprenticeship before one could enter certain trades quietly died during the eighteenth century, and when, finally, in the labor troubles early in the nineteenth century some workmen discovered the old law and prosecuted employers for violating it, it

was first suspended and then repealed, as being plainly ill adapted to the new condition of industry. So, little by little, the old laws were repealed or forgotten, and men were left free to bargain and trade largely as they pleased.

This policy of *laissez-faire*, or letting things drift, was very generally accepted by the economic writers who followed Adam Smith, and was clearly reflected in the attitude of statesmen. The universal free play of competition came to be the prevailing ideal in this first phase of the industrial stage. It was in keeping with this spirit that England became a free-trade nation in this period, the last step being taken when the " corn laws " were repealed in 1846.

The Reaction against the Passive Policy. — It may be said that by 1850 the abandonment of mercantilistic ideas was complete in England, but long before this date a new system of legislation for the purpose of controlling industry, inspired by a wholly different purpose, had been begun. It was only too clear that some of the actual results of unrestrained competition in the new factory industries were such as could not be tolerated. We have now to consider some of the main lines along which this modern industrial regulation has been developed.

1. *The Quality of Goods.* — In repealing the laws for the inspection of wares it was urged that cheating would not pay and would cure itself. Indeed, it was said that the very inspection of wares by the government was the cause of fraud; for, the government brand being often put on carelessly, men bought poor goods, because of the brand, which they would have rejected if they had examined them. The abolition of the laws would result in each examining goods for himself, it was asserted. It is hardly necessary to say that these hopes were not realized. Men might be trusted to attend to their own interests if they knew enough to do so, but they do not. Who can tell the quality of baking powder, or ground spices, or patent medicines, or many other things that are misrepresented when offered for sale? For these the ordinary buyer's knowledge is, if not worthless, certainly quite inadequate; an expert must be employed. Such has been the experience of the English people and also, more recently, of the people of the United States, and the law now provides for the inspection by government

experts of many articles of food. The notion that men will always ruin their business prospects if they cheat, and so will be deterred from cheating, has been utterly exploded by the English experiment. The reputation for honesty is undoubtedly a source of strength to many business houses; but many a man has perpetrated an audacious fraud upon a country for a few years and retired with a fortune when his cheating began to be known. The inspection of goods by the State is a principle now fully recognized, the only question being how far it should be applied.

2. *The Protection of Labor.* — As a result of a series of epidemics of infectious fevers, public attention was called to the condition of the apprenticed children in cotton factories. In 1796 the Manchester Board of Health reported upon the unhealthful conditions under which the children worked, pointing out that " the untimely labor of the night, and the protracted labor of the day, with respect to children, not only tends to diminish future expectations as to the general sum of life and industry by impairing the strength and destroying the vital stamina of the rising generation, but it too often gives encouragement to idleness, extravagance, and profligacy in the parents, who, contrary to the order of nature, subsist by the oppression of their offspring." In 1802 the first factory act was passed to protect the health and morals of pauper children in cotton factories. The apprentices were not to work more than twelve hours by day, and after 1804 not at all by night, but the law was not effectively administered. After much agitation, in which Robert Owen took a prominent part, a second step was taken in 1819. The act prohibited children under nine years from working in cotton mills, and no person under sixteen was to be employed more than twelve hours per day. As with the act of 1802, the enforcement of the law was left to the justices of the peace. In 1833 regulations as to conditions of work for children and young persons were made for all textile factories, and special inspectors were provided to enforce the law. In the following years the controversy concerning labor legislation was violent and bitter. After a report by a committee revealing shameful conditions in the mines, an act was passed in 1842 prohibiting the employment of women and children underground. In 1844 women were included in the protective factory

legislation and the half-time system for children was enacted. The Ten Hours' Act of 1847 limited the working day to ten hours. Subsequently protective legislation was made to cover industrial establishments generally. The Shop Acts of 1912 and 1913 provided systems of hours of employment and holidays, applying to men as well as women, for retail establishments. In 1908 eight hours was made a day's work for coal miners, and in 1917 this maximum was reduced to seven hours. Efforts to secure a legally established eight-hour working day for industry in general have not thus far succeeded, although in practice the eight-hour day prevails in most British industries.

No part of the new legislation marks a more definite break with *laissez-faire* principles than that which established a *minimum wage*. The object of such legislation was at first merely the protection of the standard of living of the workers in the so-called "sweated industries," such as the making of clothing. Here the workers were poorly organized, weak in bargaining power, and very often paid less than what by any criterion was a living wage. In 1909 Parliament provided for the establishment of Trade Boards, each composed of an equal number of employers' and workers' representatives, with power to fix the minimum rates of wages that could be paid within a trade. In 1912 a similar system was established for coal mining, — not a sweated industry. Finally, in 1918, at a time when prices and the cost of living were unusually high, the Minister of Labor was given power to bring any trade for which he thought wage regulation was needed under the operation of the Trade Boards Act of 1909. Trade Boards, it happened, were established in many industries just as a prolonged period of industrial depression was setting in, and when the general tendency of both wages and the cost of living was downward, so that in some instances the attempts of the Boards to bolster up the rate of wages only made it more difficult for employers to continue producing and for workers to hold their jobs. "There is substance," reported a very able Departmental Committee in 1921, "in the allegation that the operations of some of the Boards have contributed to the volume of trade depression and unemployment." The same committee recommended that the Trade Boards system be applied only to

trades in which wages are exceptionally low. In the sweated industries, it is clear, the principle of the minimum wage has justified itself. Applied indiscriminately, however, English experience indicates that it may easily do more harm than good.

Another important line of legislation that has been made necessary by the extensive use of machinery deals with the *liability of employers* in cases of accidents to their workmen. Under the common law a workman was entitled to receive damages when injured as a result of the negligence of his employers, but he was supposed to assume the ordinary risks of the business. When the injury was caused by the workman's own negligence or by the negligence of a fellow-workman the employer was not responsible. The Employers' Liability Act of 1880 gave the workman the right to compensation in certain cases where the injury was caused by the negligence of other employees, and in 1897, by the Workmen's Compensation Act, a radical departure was made from previous legislation. The employer is now liable to pay damages even when there has been no negligence on his own part, and even when the accident has been due to the neglect of the injured workman himself, except only in cases of "serious and willful misconduct." This principle now applies also to agriculture, shipping, and mercantile and domestic employments, and certain trade diseases have been made to count as accidents. The transition from "employers' liability" to "workmen's compensation" was thus a change in more than mere name. The law of employers' liability aimed merely at doing justice as between the workman and his employer. Workmen's compensation statutes are based upon a broader social principle, involving the recognition of the facts that industrial accidents are part of the price that has to be paid for the use of modern methods of production; that the worker and his family are ill-equipped to bear the burden of the loss of earning power that results from such accidents; and that the duty of making adequate compensation falls upon society at large, which may very properly use the employer as its responsible agent for this purpose.

A newer and larger development of the principle of compensation is found in *social insurance*, which recognizes and extends the principle of social responsibility, but combines with it an insistence

upon the equal importance of the development of habits of individual thrift and self-help. The National Insurance Act of 1911 provided for compulsory insurance against sickness and unemployment. The cost of providing "out-of-work" benefits was apportioned among workmen, their employers, and the government. At first compulsory insurance against unemployment was restricted to certain occupations especially subject to seasonal and cyclical fluctuations, such as the building trades. But in 1920, in a period of severe post-war industrial depression, the system was extended to substantially all trades except agriculture and domestic service. A slightly different type of social insurance which is becoming more and more associated with unemployment insurance, is old age insurance. Old age pensions were first introduced in 1908, and have been gradually extended to apply to any resident of the United Kingdom over 70 years of age who is without other means of support. In 1925 the Widows', Orphans', and Old Age Contributory Pensions Act provided for a fund made up by the employers and employees to insure the widows and orphans of laborers, and to give old age pensions to all over 65 years. Along the same line of relief for the families of workmen, additions to the unemployment insurance acts, in 1925, gave extra allowances to dependents. Social insurance imposes a real burden upon industry and the State, payments for unemployment alone having amounted to £85,300,000 in 1927. Opinion in England is strongly divided with regard to the effects of Unemployment Insurance. The "dole," as it is generally called, is bitterly criticized by some as a pauperizing influence and as having a demoralizing effect on the working classes. Others regard the provision of social insurance in general and unemployment insurance in particular, as an essential function of the modern State. It is generally agreed that the situation in England, during the industrial depression which followed the World War, would have been intolerable for working men and their families without some provision for the relief of the unemployed.

3. Labor Organization. — Modifications in the working of free competition have also been effected by the voluntary organizations of the workers, not only by their influence upon legislation, but also by direct dealings with employers. We have noticed the gilds,

which played a large part in the history of the Middle Ages. These, however, were not like modern trade-unions. They were unions of men who worked, but not exclusively of wage earners, nor even chiefly in the interests of wage earners. They were formed of masters. But combinations of the wage-earning classes are found long before the Industrial Revolution. They do not become prominent, however, until the nineteenth century. Laws prohibiting the combination of laborers had been passed at intervals since the Middle Ages, and in 1800 Parliament, finding that unions were increasing, passed a most comprehensive law to suppress them, declaring illegal "all agreements between journeymen and workmen for obtaining advances of wages, reductions of hours of labor, or any other changes in the conditions of work." Under this law many workmen were prosecuted and severely punished, but in vain. In 1824 Parliament confessed the law a mistake, and repealed it along with previous laws relating to combinations of workmen. Trade-unions, thus tolerated, grew at an astonishing rate, but they were still subject to legal persecution. Judicial decisions, especially, were adverse to them, as the courts regarded them as agreements in restraint of trade. But in 1871 a law was passed which declared that the purposes and actions of trade-unions were not to be deemed unlawful as being in the restraint of trade, and in 1875 the legality of trade-unions was still further recognized by the provision that acts which were not punishable as crimes when done by one person should not be indictable as conspiracy when done by two or more in furtherance of trade disputes. Finally, in 1906, the courts were forbidden to entertain actions for damages against trade-unions. In the same year peaceful picketing was legalized. In 1928 British trade-unions had a total membership of about 3,874,842.

4. The Extension of Government Enterprise. — The reaction against a *laissez-faire* policy is further shown by a growth in the sphere of industry directly managed by the government. We find municipalities operating street railways and furnishing water, gas, and electric light. Municipal enterprise includes also in various places markets, docks, dwellings, baths, race courses, oyster fisheries, slaughterhouses, milk depots, employment bureaus, sewage

farms, theaters, and many other lines of activity. The national government conducts the postal savings banks, the parcel post, and the telegraph and telephone systems.

Summary. — In this chapter a brief sketch has been given of England's attempt to deal with a new set of forces. An immense increase in production has taken place, due in part to competition, more to machinery. But the distribution of this wealth, growing directly out of the principles of competition so long as they were unrestrictedly applied, was such that poverty grew rapidly, and some said even faster than wealth, and the laboring population of the realm sank into deeper distress and degradation. The partial benevolence of employers, which would fain have mitigated this disaster, was, as a rule, neither welcome nor tolerated by the competition which had made itself law. Not until this benevolence was formulated, generalized, and enforced by disinterested legislation was the horror of the situation appreciably diminished. When we hear the principle of "a fair field and no favor" and "no State intervention" advocated by a man strong in the consciousness of personal advantages, we must remember that he is a century behind his time, and that he has not read or has not profited by one of the most dolorous chapters in human history. The English nation, after a trial of free competition and no interference, as thorough as could well be made, has undeniably returned to the principle of governmental activity which she had abandoned, — a principle which recognizes as the function of the State the protection of the citizens, and the furtherance of their material and social well-being, by every law and every activity which offers a reasonable guarantee of contributing to that end. It is to be noticed furthermore that, as a matter of fact, all this activity of the State contributing to material and social well-being has also increased freedom as a positive, constructive force. It has promoted the growth of individual powers and enlarged the scope of activity of the average citizen. It has not tended to slavery, as Herbert Spencer long ago maintained, but its tendency has been in the direction of the sort of liberty that is really worth while; namely, liberty as a power of development and of contributing (in the words of the philosopher T. H. Green) to the "common good." The older legislation *re-*

stricted the individual; the newer legislation enlarges and equalizes opportunities. It preserves and fosters competition and individual enterprise by ridding them of some of their unwholesome accompaniments.

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CHAPTER IV

THE ECONOMIC DEVELOPMENT OF THE UNITED STATES

Economic Stages in American Industrial History. — The transit of civilization from Europe to America thrust the European laws, customs, and industrial technique of the seventeenth century into the primitive environment of a wilderness, and for the moment the wilderness dominated. Industry was forced to begin at the beginning and retrace — as the child is said to retrace the mental development of mankind — the industrial evolution of the race.

It is not to be supposed that American industrial society worked its own way unaided through all those economic stages which the race, with "painful steps and slow," has laboriously traversed in its upward march. Stimulated by European culture, we hurried through the earlier stages, for the most part, retracing them merely as an incident of frontier conditions, and skipping some — such as the pastoral stage — in many sections of the country.

It is interesting to observe that, owing to the progressive western movement of the population of the country, the stages in the history of man's productive efforts appeared in regular order from west to east. Thus, only a few decades ago, the country of the frontier was occupied by hunters and trappers; next were great stretches of country almost entirely devoted to grazing; farther east, agriculture predominated; trade and commerce were active, especially in the country east of the Mississippi; manufacture on a large scale was prominent in the North Atlantic and North Central groups of states; while finally the large industrial combinations which mark the latest step in development were confined (with respect to legal residence and financial control at least) to the Atlantic seaboard. "The United States lies like a huge page in the history of society." [1]

[1] F. J. Turner, *The Frontier in American History* (H. Holt and Co., New York, 1920), p. 11.

Sectionalism. — This phenomenon of the contemporaneous existence of several industrial stages, side by side, under the same government, has laid upon this country some of the hardest problems which it has had to solve. The ever present but ever receding frontier has continually created a set of interests antagonistic to those of the settled industrial and commercial communities. The federal Constitution was adopted and the present government created in order, mainly, to strengthen national credit, insure taxation, remove trade barriers, and provide a sound currency; and the opposition to the ratification of the Constitution came largely from those agricultural and thinly settled communities that wanted to keep paper money, evade debt payment, and resist the collection of taxes. During the earlier history of the country wildcat banking and inflated currency regularly followed in the wake of the frontier.

Tariff legislation, with its different appeal to the agricultural and industrial sections of the country, has been another prolific source of territorial conflict. After the War of 1812, the manufacturing centers of the North redoubled their efforts for protection. This was strenuously resisted by the South, where manufactures had gained practically no hold, and the struggle of the sections over the tariff led to Nullification in South Carolina and was at least one of the causes of the acceptance by the South of the doctrine of secession. The Civil War itself was largely a sectional quarrel growing out of ceaseless friction between a section which had reached the industrial stage and a condition of free-wage contract with a section which had been held in the agricultural stage by the retention of slavery. As a more recent illustration of sectional conflict arising from the natural clash of districts in different stages of economic development, we have the free-silver campaign of 1896, when the mining, agricultural, and debtor communities of the West and South arrayed themselves against the industrial and creditor communities of the East and North. Again, in the period when prices were declining from the high level they had reached just after the World War, an " agricultural bloc " in Congress, organized on sectional rather than party lines, opposed legislation or administrative action which, it was feared, might

injure the economic interests of the great agricultural regions of the country. Another aspect of the sectional split between agricultural and non-agricultural districts has recently appeared in the opposition shown by urban consumers to the proposals, embodied in the McNary-Haugen Bill, to raise farm prices by various devices, involving the large expenditure of public money.

The typical political struggles of the past have thus been territorial. Now that the frontier has disappeared, however, it is believed by some that the typical political struggles of the future are likely to take the form not of section against section, but of class against class. Unquestionably the rapid development of large-scale industry, finance, and commerce, and, most of all perhaps, the influx of millions of skilled and unskilled laborers from continental Europe, have brought about a sharp cleavage between different economic classes. But now as in the past the economic interests of different classes are reflected in the political interests of different geographical sections. Nor is sectionalism peculiar to the United States. In Europe, strengthened by differences of language, race, and historical tradition, it assumes the form of an exaggerated nationalism. The United States is more happily a "federation of sections."

Characteristics of the American People. — Although the frontier has disappeared, the pioneer work of "winning a continent from nature and subduing it to the uses of man" has left an indelible impress upon the American character. In the beginning, the dangers and hardships of the frontier acted as a powerful selective force in determining the character of our earlier immigrants, giving us an unusually restless, mobile and enterprising people. The process of settlement which followed merely emphasized these qualities and added others of a kindred nature. The primitive settler, following the trapper and the trader into the wilderness, was forced to depend upon himself for protection and subsistence; he expected little aid from the government, was unused to the restraints of law, and a little skeptical of its possibilities, either for good or for evil. The process of settlement, then, merely confirmed the American in that excessive individualism which has made him independent and resourceful, to be sure, but partial to the

spoils system, tolerant of lynch law and labor violence, indifferent to waste and weakness in the administration of his government.

At the same time the great natural wealth of our land has taught too many of our people to regard nature rather than thrift as the source of wealth, to exploit rather than create, to work and study as we farm, — extensively. As a people, we have been optimistic but careless, generous but wasteful, buoyant but boastful. Industrially, we have risen to our exceptional opportunities with spirit, playing the commercial game at times with excessive energy and devotion; but we have often emphasized quantity rather than quality, product rather than finish. We "lead the world" in the use of labor-saving machinery, but depend largely upon Europe for our skilled artisans.

Growth of Population. — The mere growth of the American people has been as striking as it is familiar. In 1640 there were about 25,000 persons, excluding Indians, in British North America; about 260,000 at the end of the seventeenth century according to Bancroft; according to the same authority the million mark was reached in 1743; and in 1790 the first federal census showed a population of 3,930,000 in the United States alone. In the next hundred years the population doubled every twenty-five years on an average, and although the *rate* of increase has fallen off since the Civil War and was lower in the decade from 1910 to 1920 than it had ever been before, the *volume* of growth still remains remarkable, having been 13,740,000 in the decade just mentioned. The population of continental United States in 1920 was 105,711,000, and the annual midyear estimate made by the Bureau of the Census for 1928 showed an increase to about 120,013,000.

Despite the enormous increase, the population of this country has not multiplied more rapidly than the means of subsistence. This does not mean that every one receives enough to live in comfort. On the contrary, great masses of people live in poverty. Neither does it mean that society as a whole produces enough to support every one in opulence, if the weath produced were equitably or evenly divided. Such a division of the aggregate national income in 1928 — a year of unusually high incomes — would have

given each individual about $745,[1] making almost $3000 for the average family, — a much higher average than could be found in any other country. But with respect to the movement over long periods, say during the last century and a half, there can be no doubt that wages and real income have risen, not without interruption, but with comparative steadiness.

The dismal predictions of overpopulation which were so common in the first half of the nineteenth century have been signally discredited as practical propositions applicable to the American people of this epoch. The exploitation of national wealth, the improvement of business organization, and the invention of labor-saving machinery have more than kept pace with population. We are in no danger of a "devastating torrent of children."

On the contrary, a more serious problem is found in the steady decline of the birth rate. According to some eminent authorities, the race is dying at the top, the ablest and most successful people have the smallest families; and this constant sterilization of the ablest stock is, in the opinion of such authorities, second in importance to no problem which Western civilization is called upon to solve. It is not that we want more people. Population is still increasing with sufficient rapidity. The problem lies in the apparent failure of the most efficient individuals to multiply as rapidly as certain classes of the less efficient. Other authorities, it should be added, maintain that this "race suicide" has been going on for centuries, that it has not in the past, and will not in the future, lower the vitality or general efficiency of the race. Such writers view with complacency the ceaseless sterilization of the upper classes, maintaining that the process stimulates the ambition of the abler members of the lower classes by creating room at the top, and that so long as the habits and ideals of the upper classes remain wholesome, there is no cause for regret that the individuals who compose these classes are not self-perpetuating. Social heredity, not personal heredity, the preservation of sound morals, wholesome customs, and habits of social helpfulness, together with

[1] President's Conference on Unemployment: Herbert Hoover, Chairman. Report of the Committee on Recent Economic Changes. McGraw Hill Book Co., New York, 1929. Estimate of A. Cleveland, National Bureau of Economic Research. Vol. II, p. 707. The figure is for "disbursed" or "realized income."

the opening up of new opportunities, are according to these writers the important factors.

Second only in importance to "race suicide," and intimately connected with it, is the problem created by the rush to the city. In 1790 about 33 Americans in every thousand lived in a city of 8000 inhabitants or more; in 1920 approximately 440 in every thousand lived in a city of that size. The mere facts in this connection are familiar to every one and need no elaboration. Their importance lies in the fact that the rush to the city is apparently universal, that it has been going on for centuries, and that it indefinitely complicates and aggravates the social, industrial, and political problems of our time. "Race suicide," for example, is probably more attributable to social conditions created by city life than to any physical incapacity of the women of this generation to bear children; the evils commonly charged to the factory system are due as much to city crowding as to the factory system itself; and, speaking generally, whatever plan of reform for existing evils we devise or champion, we must reckon with this deep-rooted and persistent force which draws to the city so much of the best talent and ability the rural districts produce.

Slavery and the Negro Problem. — From the earliest period of settlement, one of the fundamental problems of the employing classes has been to get enough labor to exploit the great national wealth of the country. The first solution attempted was by importing bondsmen or indentured servants. "Nearly all the immigrants that came (to Virginia) between 1620 and 1650 were bondsmen," and in 1680 an English official estimated that about 10,000 persons were kidnaped or "spirited away" to America every year. This class of indentured servants consisted of runaway apprentices, penniless debtors, kidnaped children, honest laborers, vagrants, and criminals of all kinds. They were sometimes subjected to the most inhuman treatment, but, because they had white skins, soon melted into the free population and never created a race problem.

The first negro slaves landed in Virginia in 1619. For about thirty years they did not increase very rapidly, but after that, and until the close of the eighteenth century, they multiplied with

greater rapidity than the white population. In 1790 there were 750,000 negroes or persons of negro descent in this country, constituting 19 per cent of the population. Since 1790 the negro population has steadily declined in relative importance, and in 1920, numbering 10,460,000 in all, it constituted only 10 per cent of the general population. Moreover, the *rate* of growth of the negro population has been rapidly declining. In the decade from 1910 to 1920 the rate of increase was only 6.5 per cent, the lowest thus far recorded for an intercensal period.

The negro problem today, so far as it is an economic problem, arises largely from the ignorance and economic weakness of the negroes and the exploitation to which their ignorance and weakness subject them; from their concentration in certain narrow districts of the South, known as black belts; their dependence upon credit advances; their inability readily to take up diversified farming and, outside of the farming districts, from the social pressure which confines them to a relatively few occupations, most of which — particularly as they practice them — are neither uplifting nor developmental. In 1900, for instance, 63 per cent of the male and 90 per cent of the female negro breadwinners were employed in unskilled trades.

It is generally thought that this condition of affairs is due in some degree to the economic inertia and shiftlessness of the negroes themselves. Yet considering the circumstances attendant upon their introduction into this country, it would be surprising if they were not economically backward. Present conditions are also due in part to discrimination against the negro. Trade unions, for example, have generally been disinclined to receive negroes as members on the same status as white workmen.

Vigorous efforts, however, are now being made in the South to provide industrial training of a systematic kind for the negroes; the economic status of the negro in recent years, particularly that of the negro farmer, shows steady improvement. But yesterday a slave, it is inevitable that the negro should be forced to traverse in the forward path the intermediate steps of serfdom, peonage, and tenancy before becoming farm operative and owner. No class can be transformed in a day by legislative enactment from

the status of slavery to that of free contract. In the South during the twenty years from 1900 to 1920 the number of negro farmers increased more rapidly than the number of white farmers; the acreage of land operated by white farmers decreased while that operated by negro farmers increased slightly; the value of farm land and buildings owned by whites increased 340 per cent, but the value of farm land and buildings owned by negroes increased 540 per cent; while the number of negro farm owners increased 16 per cent as contrasted with an increase of 13 per cent in the white owners of farms.

Further, it is important to observe that there are certain tendencies at work which are changing the character of the negro problem, and which, in particular, may make it less a problem of one section and of one type of occupation. In 1860, all but 7.8 per cent of the negro population lived in the South. The census of 1920 found that 14.8 per cent lived outside the Southern States. Since the Civil War, each successive census has shown a lessening of the concentration of the negro population in the South. Moreover, there has been a surprisingly large movement of negroes from the country to the cities. In 1920 fully a third of the negroes in the United States lived in urban communities as compared with a bare fifth so late as 1890. Undoubtedly the great demand for unskilled labor during and immediately following the years of the World War drew negroes to the large industrial centers of the North in unusual numbers, but the net effect was merely to accelerate a movement which had long been in process. Such facts give reason for hoping that the negro will gradually find his place in the diversified economic life of the nation.

Immigration. — Next in importance to the negro question is the problem of immigration. We have always had an immigration problem. "Governor Thomas Dongan, in 1685, made a report to the King of England full of dreadful forebodings as to the future of the 'Royal Province' of New England unless the tendency to overcrowding were promptly checked. . . . George Washington and Thomas Jefferson are both recorded as opponents of an unrestricted policy of immigration, and it may be safely asserted that no considerable period has elapsed since their day

without producing eloquent and forceful advocates of a rigid restrictive immigration policy." [3]

Within the present decade the policy of restriction has triumphed, partly as a result of the enormous number entering this country in the first decade of the twentieth century (nearly 8,800,000 as compared with 3,844,000 in the decade 1891–1900), partly as a result of the increasing prominence which immigrants have come to play in the radical labor and political movements here, partly as a result of the growing conviction among thoughtful people that the open door does not permanently relieve overpopulation in foreign countries, and very largely because of the change which came over the character or source of our immigration in the last quarter of the nineteenth century. From 1821 to 1890 about three-quarters of the immigrants entering this country came from Germany, the United Kingdom, Norway, Sweden, and Denmark. Then the number of immigrants from eastern and southern Europe began to increase rapidly; and from 1901 to 1920 inclusive the proportion from the above mentioned countries of Northwestern Europe fell to about 18 per cent, while the proportion from Italy, Austria-Hungary, Poland and Russia, increased to more than 60 per cent. The new immigrants were more generally illiterate, were much less likely to bring over their families and become permanent residents, displayed less interest in taking out naturalization papers, and showed a smaller proportion of skilled workmen, than the earlier immigrants.

There can be no doubt that the problem had in fact become a grave one. In times past, charitable associations, and even certain foreign governments, "assisted" the poorest and neediest of their citizens to migrate to this country; agents of steamship companies actively bestirred themselves in increasing the volume of their immigrant traffic; famine and revolution in Europe spurred the impecunious and the radical to take refuge among us; regularly, also, the tide of immigration has ebbed and risen in close correspondence with the business prosperity of this country, artificially swelling our laboring population in times of industrial activity, encouraging our industrial managers in their spasmodic, jerky

[3] Robert Watchorn in *The Outlook*, Vol. LXXXVII, p. 900.

TABLE II

TOTAL NUMBER OF IMMIGRANTS (IN THOUSANDS) AND PROPORTION COMING FROM DESIGNATED COUNTRIES BY SPECIFIED PERIODS: 1821–1920 [4]

	1821–1850	1851–1860	1861–1870	1871–1880	1881–1890	1891–1900	1901–1910	1911–1920
Total Number	2456	2598	2315	2812	5247	3844	8795	5736
Per cent								
Germany	24.2	36.6	34.0	25.6	27.7	14.1	3.9	2.5
Great Britain	15.0	16.3	26.2	19.5	15.4	8.9	6.0	6.0
Ireland	42.3	35.2	18.8	15.5	12.5	10.5	3.8	2.5
Norway, Sweden, and Denmark	0.7	0.9	5.4	8.6	12.5	9.9	5.7	3.5
Total	82.2	89.0	84.4	69.2	68.1	43.4	19.4	14.5
Austria-Hungary			0.4	2.6	6.7	15.5	24.4	15.6
Italy	0.2	0.3	0.5	2.0	5.9	17.1	23.3	19.4
Russia and Poland	0.1	0.1	0.2	1.8	5.0	15.4	18.2	16.1
Total	0.3	0.4	1.1	6.4	17.6	48.0	65.9	51.1
All Other Countries	17.5	10.6	14.5	24.4	14.3	8.6	14.7	34.4
Grand Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[4] Data from Adams and Sumner, *Labor Problems* (The Macmillan Co., New York, 1905), p. 73, and the *Statistical Abstract* (Department of Commerce, Government Printing Office, Washington, D. C., 1921), 1920, p. 102. These figures are not exact and not altogether comparable, owing to changes in the immigration year, the distinction of nationalities, and the immigration laws. Nor do they take account of the very considerable amount of return migration. In the decade 1911–1920 the net excess of arrivals over departures of all aliens amounted to 3,124,000, while the arrivals of immigrants alone (not counting the arrivals of non-immigrant aliens) numbered, as the table indicates, 5,736,000.

methods of production, and thus augmenting the severity of our alternating periods of industrial depression. Moreover, in certain industries the immigrant with his relatively low standard of living has driven out the native workman; and most of the immigrants have shown an unfortunate tendency to linger in the cities of the eastern seaboard, swarming in the slums and intensifying all those social evils which have their origin in urban congestion.

Some measure of restriction had in fact been practiced for many years. Our laws excluding diseased, criminal, immoral, feeble-minded, and indigent persons had been made stricter from time to time and their administration had become more efficient. In addition to the plainly undesirable classes just noted, Chinese laborers had been excluded since 1882, aliens under contract to take up particular work since 1885, and anarchists since 1903. Owing, however, to the extraordinary increase of immigrants in the first decade of the twentieth century (the number rose from 3,840,000 in the decade ending in 1900 to 8,795,000 in the decade ending in 1910) unusual interest in the subject was aroused and the restrictive features of the law were repeatedly strengthened. The World War gave new aspects to the immigration problem. Popular distrust of the alien as such was increased, and in particular, there was a good deal of alarm respecting the political activities of enemy aliens and of alien "radicals." Federal action took the form of deporting as well as excluding supposedly dangerous classes. It was undoubtedly the existence of this background of popular distrust which made it possible for Congress in 1917 to enact, over President Wilson's veto, a statute excluding, with some exceptions, all alien immigrants over sixteen years of age unable to read. For twenty-five years the literacy test had been debated in Congress. On three occasions (1896, 1913, 1914) measures providing for it had narrowly failed being passed over presidential vetoes.

From July 1, 1914, to June 30, 1919, the volume of immigration was less than in the single year ending June 30, 1914. This was not so much because of restrictive immigration legislation as because of the obstacles which the World War itself put in the way of the free movement of peoples. The war left Europe impoverished and the United States relatively prosperous. It was feared by many

that economic pressure in Europe would lead to a flood of immigration of unprecedented volume. Notwithstanding the enactment of the literacy test, there was a strong demand for further restriction, supported by organized labor and by popular opinion as well.

In 1921, Congress passed the Immigration Restriction Law limiting the number of immigrants from any one country annually admissible to 3 per cent of the number of that nationality residing in the United States at the time of the 1910 census. Designed as a temporary measure to cope with a threatened emergency, the principle of the 1921 Act was carried over into the Immigration Act of 1924, and it is probable that this law marks a turning point in the traditional policy of the United States towards immigration. The quota was changed to 2 per cent of the number of persons of each nationality who were residents of continental United States as shown by the 1890 census, with a minimum quota for any one country of 100. The quota was applicable only to persons eligible for United States citizenship; and thus excluded Japanese, Chinese, and other ineligible peoples. The Act provides also for so-called non-quota immigrants, wives and children of resident citizens, students, teachers and ministers, and resident natives of Canada, Mexico, and the other American countries. Furthermore, in issuing passports to quota immigrants, preference was given to near relatives of American citizens, and to skilled agricultural laborers, with their wives and children. Certain administrative and other difficulties of the law of 1921 were improved in this Act. Such improvements are found in the system of preferences within quotas, in the allowance of a minimum quota from any one country, and in a new feature, which provides that much of the weeding out of immigrants undesirable because of feeble-mindedness or previous prison record, shall be done by the American consuls overseas. This eliminates much of the necessity for detention at Ellis Island, and for deportation after arrival in this country.

The policy of the quota acts of 1921 and 1924 was to cut down the volume of immigration in general and the number of immigrants from eastern Europe, southern Europe, and Asia, in particular. This purpose has apparently been accomplished. Analysis of

immigration statistics indicates that the annual average net immigration (immigrants less emigrants) between July 1, 1921 and June 30, 1927 was less than one half of what it would have been on the basis of the seven pre-war years July 1, 1907 — June 30, 1914. Material prepared by Professor Harry Jerome [5] indicates that between July 1, 1921 and June 30, 1927, as compared with the pre-war period noted above, there was a reduction in the net immigration of about 2,109,000. There was an increase of approximately 671,000 from Mexico, Canada and Newfoundland, and a decrease of approximately 2,780,000 from other countries. Of this total decrease over 90 per cent was in the "new" immigration from southern Europe, eastern Europe, and Asia, while less than 10 per cent was in the "old" immigration from northern and western Europe.

On July 1, 1929, the quota basis was further restricted and modified by the application of the "national origins clause," which it is estimated will reduce the annual immigration from 164,667 to less than 154,000, and which — as compared with the quotas which it supersedes — will materially reduce the immigration from Germany and the Irish Free State, and increase the British quota by nearly 100 per cent, while slightly increasing the immigration from eastern and southern Europe. Under this clause or provision the quotas will be based upon the racial composition of the present population, determined by population studies of our national origins, starting with the census of 1790 and giving effect to all changes shown in later censuses. In reporting the findings of the investigators authorized to determine the basic figures, the Secretaries of Commerce, State, and Labor said that "the statistical and historical information available raises grave doubts as to the whole value of these computations."

The Act of 1924 had originally provided that the "national origins clause" should go into effect in 1927, but its application was postponed by Congress in 1927 and 1928. In 1929, however, President Hoover was obliged, after vainly requesting Congress to postpone its operation once more, to proclaim that it would go into effect on July 1st of that year. While the theory of apportioning immi-

[5] *Recent Economic Changes*, Vol. II, pp. 426–429.

gration so as to make it preserve and strengthen the present composition of the population as regards national origins is not objectionable, it is regrettable that the desired number of immigrants cannot be selected on the basis of effective tests of individual character and efficiency.

Surveying the whole history of immigration, certain general conclusions may be drawn.

1. In the past, the traditional policy of the country was "to improve rather than to check immigration," and to hold out the promise of political equality and of economic opportunity to all. Since the World War this policy has been substantially reversed.

2. We have, as a people, shown a marvelous ability to assimilate rapidly people of diverse races, tongues, and religions, to amalgamate them and stamp them with the characteristic qualities of the American. Even at the close of the eighteenth century about one fifth of the population spoke some other language than English as its mother tongue, and probably one half of the population was of other than English descent. The heterogeneous character of the population is illustrated by the fact that nine of the men most prominent in the early history of New York represented as many different nationalities.

3. We have failed, however, to amalgamate the negro and the Chinese; the incidental feature of a dark skin creates especially difficult problems. This fact makes it undesirable that Japanese, Chinese, or Hindu laborers should settle here in large numbers, particularly in separate "colonies." Despite the high qualities of some of these peoples, it is conceivable that they might come to this country in sufficient numbers to create a problem similar in character and gravity to the negro problem. Where there is real probability of such a result, exclusion must be practiced even though the danger be attributed to our own race prejudice rather than to the clannishness and exclusiveness of the immigrants.

4. The same considerations hold for any class of immigrants, whatever the color of their skins, who have been found by experience not to be readily assimilable into American life. The presence of large numbers of persons of some one foreign nationality might create racial antagonism where a smaller number of persons

of the same nationality would be received and absorbed into the general population without the slightest friction. That the "new immigration" described above has given rise to new and more difficult problems of assimilation is proved beyond doubt by the multiplication in recent years of agencies for educating, distributing, and "Americanizing" immigrants. Social, educational, and religious organizations have busied themselves with different phases of this work. In some cases, undoubtedly, "Americanization" work has been undertaken in a spirit of snobbishness and of intolerant pride in our own institutions, with little respect for the valuable elements in the customs and the traditions of the foreign-born. But behind the efforts to Americanize the immigrant, however misdirected these may be in particular instances, lies the fundamental and inescapable fact that the ideals of political democracy and of equality of economic opportunity are empty of meaning except for a fairly homogeneous people, knit together by a common interest in the problems of the local community and of the nation. There is fairly clear evidence that in the past third of a century we have been admitting aliens more rapidly than we could absorb them into our national life. They have accumulated in undistributed pools. For the time being, at least, some slackening of the rate at which new arrivals will come to us will have a wholesome effect.

5. Our attitude, undoubtedly, should take into account not only our own interests but those of the world at large. There is no clear evidence, however, that economic pressure in overcrowded countries is in the long run always relieved by emigration. In all too many cases emigration merely makes room for a correspondingly more rapid expansion of the population left at home. The places left vacant by the emigrants are rapidly filled.

Natural Resources. — Next to the character of the people with which this continent has been stocked, the most powerful factor in shaping the economic development of the United States has been its enormous natural wealth. With a territory (excluding Alaska and our insular possessions) more than three fourths as large as all Europe, indented, particularly on the eastern coast, with a large number of good harbors, intersected by internal water-

ways, endowed with water power that in the opinion of one authority is probably " more valuable than those of all other lands put together," marked by every variety of climate and soil, covered in many places, originally, with magnificent forests, and liberally stocked with almost every important variety of mineral wealth, it is not surprising that at the present time the United States " leads the world " in the production of iron and steel, cotton, coal, copper, dairy products, corn, wheat, lead, lumber, tobacco, petroleum, and hogs. It would be strange, indeed, with the vast mineral and agricultural resources at our command, if we did not " lead the world " in many things.

The Public Domain. — Of the 2,972,582 square miles of territory in continental United States, about three fourths at one time or another belonged to the federal government. Those parts of the United States which never were included in the public domain were the original thirteen states, a large part of Kentucky and Tennessee, and all of Texas, the latter state having retained the lands within its border when it was annexed to the United States. The public domain was not only important from the agricultural standpoint, but within the same area was comprised a large part of other natural treasure, which is included within the category of " natural resources." This great empire, mainly unsettled until within a hundred years, with its minerals, water power and forests, has had a profound effect on the economic development of the nation. Just what the fact of national ownership of these resources has had to do with the development is not so clear. It must be admitted that the government from first to last has had no definite policy respecting the disposition of the public domain, unless it be the *laissez-faire*, or negative, policy of getting the land into the hands of private citizens as promptly as possible, and without regard to revenue derived from it. Land was not actually free from the time of the Revolutionary War until the passage of the Homestead Act in 1862, yet it never cost over two dollars an acre, in the first instance, and the bulk of it was sold at a dollar and a quarter.

For a full century after 1785, the date of the first important land act, land was not only abundant and cheap, but of a character

adapted to the agricultural use to which the bulk of the farmers were accustomed. For this reason it seemed both natural and inevitable that the sons and daughters of the farmers, likewise great numbers of immigrants coming from the countryside of western Europe, should choose to settle on the agricultural frontier of the United States. It was a lure of the kind and quality to attract people whose lives had been bound closely to the soil. There was always the hope that this magnificent land, such as is found in both the upper and lower portions of the Mississippi Valley would, in the near future, be worth a substantial sum per acre. A hope or belief of this sort was bound to have a retarding effect on the industrial and urban development of the country. It has often been said that the laborers were more independent and more self-respecting because of the opportunity of settling on free, or near-free, land. This may have been the case, yet few laborers, such as the usual type of city or mine laborer, availed themselves of the opportunity of going west and becoming farmers. Some did. Without doubt the existence of the public domain and the manner in which it was made available were of primary importance in delaying for a generation or two the development of factories such as would have grown up had the cheap lands of the West not been available. There was a great increase of population, and the West absorbed it. But so far as the independence of labor is concerned, it has been much greater since the disappearance of the desirable free land than it was previously. While laborers were relatively few and widely scattered, the organization of them into effective fighting groups was well-nigh impossible. Later the power of labor became a reality, yet instead of holding over the heads of the public a threat of leaving the job for free land, as from 1800 to 1890 they are alleged to have done, the significant fact is that labor since that time, through its ability to limit its numbers, its output, and through its power to strike, has developed a strength quite beyond anything attained during the period of free land.

From the standpoint of agriculture itself, the existence of the great public domain has been of doubtful and varied advantage. Unquestionably many farm families were settled on land suited to their needs. These families, and their descendants have remained

in many cases in agriculture, to the advantage of themselves and the industry. On the other hand, the much-vaunted distribution of land among actual farmers, on the theory of widespread ownership of land with all of its many advantages, seems not to have worked out as was hoped. True enough, the land was widely distributed in the first instance, but it failed to remain in the hands of the recipients, their heirs and assigns as contemplated. For instance, in Illinois, in 1880, more than 30 per cent of the farms were operated by tenants, while in Iowa, a newer state, almost a quarter of the farms were so operated. It must be remembered that 1880 was only eighteen years after the passage of the Homestead Act, and that not only had much land in Iowa been obtained under the Homestead Act, but that the Preëmption Act was still in force, and a great deal of land had been distributed in quarter-section lots through this act. All of which goes to show that no matter how land is once distributed, the subsequent ownership will shape itself according to the forces in operation.

The settlement of the Middle West at a rate quite beyond the requirements of the country, and even of the world markets, resulted in a period of distress for farmers in the older sections of this country, in England and other parts of Europe. Neither did the pioneer farmer himself prosper in any marked degree. The bare land which he obtained for little or nothing was not a farm. In making a farm out of it, clearing, breaking, fencing, and building had to be done, and these at great expenditure of labor and time, not to mention money, which was so scarce as to delay the making of needed improvements, often for a generation or two. The farms were eventually valuable, but not until long after the days of free land.

The public domain has not altogether disappeared, though title to most of it has passed into private hands. Literally, the national parks, national monuments, state parks, and other state lands are a type of public domain. Even county-owned and town-owned land, of which there is a growing amount due to tax delinquency, is in a sense public domain. However, public domain as usually understood means the land belonging to the federal government. It may or may not, as popularly used, include forests, minerals

and the like. No doubt these were included in the public domain, as a portion of it, in the first instance, but later it was usual to speak of the forests *on* the public domain, and the minerals to be discovered *within* the domain rather than to include these resources, other than land proper, within the one category.

The latest proposal, a revival of an old idea, is to give the remaining land to the states in which it lies. In any event, the remaining public lands, some 190,000,000 acres in continental United States, is of doubtful value except for grazing purposes. Dry farming may be practiced on a small part of it, and irrigation on a still smaller part, but the time for obtaining a suitable piece of land on which ordinary farming may be done is long past.

Land is still easy of access from the standpoint of the tenant, and plenty of it is for sale, but free land no longer offers an outlet for a restless population. "Winning a continent from the wilderness" [6] had its picturesque side. It was a great factor in developing American character, but it was never a boon to agriculture as a whole, after the development of facilities for growing and transporting an excess of food products from the frontier to the centers of population. Some few people grew rich out of the increases in the value of land during the years of pioneering, but in general the rewards were small and they earned every cent they ultimately got. Agriculture will be more prosperous when land is valued on the basis of what it will produce, and when speculation plays a minor rôle in farm prices.

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[6] Bogart, *Economic History of the United States* (Longmans, Green and Co., New York, 1922), p. 1.

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CHAPTER V

THE ECONOMIC DEVELOPMENT OF THE UNITED STATES (*Concluded*)

In the preceding chapter attention was confined to certain fundamental and peculiarly American conditions which have influenced the economic development of this country. They form the background and setting of the picture. When we come to fill in the details, however, the general effect is very similar to that produced by the description of English industrial development given in Chapter III. There are differences, of course. But, on the whole, it is surprising how rapidly we have developed the industrial maladies and economic problems of the Old World.

Mercantilism in America. — In the American colonies, as in England itself, the Industrial Revolution was preceded by a period in which trade and industry were subject to minute regulation by the government. Bounties were freely offered in several colonies for the manufacture of leather, iron, paper, silk, and cloth; land grants were made and taxes remitted, particularly in the support of the iron industry; and in order to encourage the home manufacture of shoes, for instance, the General Court of Massachusetts in 1640 commanded that every hide "be sent to a tannery under penalty of a £12 fine," while "leather searchers" were appointed to see that the law was obeyed.

This early colonial regulation was restrictive as well as protective. In the New England colonies, in the seventeenth century, laws were repeatedly passed prohibiting idleness, fixing the hours of labor, and prescribing rates of wages, with appropriate penalties for workmen who took or employers who paid more than the legal rate. In the Boston Town Records of 1635, for instance, we find this resolution: "That Mr. William Hutchinson, Mr. William Colborne and Mr. William Breton shall sett pryces upon all cattel, comodities, victuals and labourers and Workmen's Wages and that noe other prises or

rates shal be given or taken." But the restrictive laws, in general, failed dismally. The abundance of cheap land and the independent spirit generated by the pioneer life prevented the enforcement of obnoxious colonial laws, and eventually led the colonists into armed resistance against the restrictive legislation of the English government.

English Colonial Policy. — In accordance with mercantilist views of colonial relationships, English statesmen of this period looked upon a colony as a community which was to supply raw materials for the industries of the mother country, secure its manufactured goods from the mother country, and so far as trade with the rest of the world was concerned, buy and sell through the mother country. In accordance with this general policy England gave bounties for the production in America of raw materials such as flax, indigo, naval stores, barrel staves, and the like, but restricted manufacturing proper — by prohibiting, for instance, the erection of mills for slitting or rolling iron, and furnaces for making steel — and fettered our commerce in a variety of ways.

The English laws were not so severe as might be inferred from our brief statement of their nature and purpose; they were laxly enforced; and it is to be remembered that England encouraged some industries while she attempted to destroy others. English colonial policy of this period was not so much malicious as mistaken. The important points for us are these: that it did not seriously hamper the development of American industry in general, while it did strengthen and stimulate in the American people that spirit of individualism which the industrial opportunities of the New World and the frontier conditions of the time combined to create. As a consequence the new nation, created in 1789, was pledged to the doctrine of individual liberty, and its constitution contained specific guarantees of personal freedom not only in matters political, but in industrial and social relationships as well.

American Industries in 1776. — When the Revolutionary War broke out, American industry was still in a primitive stage. The extractive industries were, relatively, the most advanced. Large quantities of lumber and timber products were exported to Europe; the fisheries were in a prosperous condition; and shipbuilding had

reached a really remarkable stage of development, — in 1775 " nearly one third of the tonnage afloat under the British flag had been built in American dockyards." Agriculture, however, was carried on in the most wasteful and unscientific way, owing to the cheapness and fertility of the soil, and manufacturing was still in the household stage. In the middle and New England colonies spinning and weaving, the manufacture of shoes and food products, were carried on within the home; and, in fact, the typical farm household of this period constituted almost an independent economic unit, raising or making what its occupants consumed, and buying little save salt and a few necessary iron implements. Of manufacturing for sale and export, however, there was little worth mention. The absence of adequate means of transport was largely responsible for this state of affairs. The roads were little more than widened Indian trails. Some years later, when conditions were considerably improved, the roads were still so poor that " Madison spent a week going from New York to Boston by stage, while the cost of cartage of a cord of wood for a distance of twelve miles was three dollars." Agriculture, however, was the dominant industry of the country. In 1787 less than one eighth of the working population was engaged in manufactures, fishing, navigation, and trade combined.

The Industrial Revolution in America. — The Industrial Revolution was sudden, and in its consequences momentous in America as well as in England. The Revolutionary War, by interrupting trade with Europe, threw the American people upon their own resources: goods that had hitherto been imported had now to be manufactured at home; a large number of new industries sprang up rapidly; and the idea became prevalent that the new nation must make itself industrially as well as politically independent of the Old World. The State governments endeavored to foster the new industries by protective tariffs, and this policy was later continued, in a moderate form, by the federal tariff act of July 4, 1789. Prizes were offered by various societies, and even by certain State governments, for the introduction of the new machines and methods which were revolutionizing industry in England. Attracted by one of these offers, Samuel Slater, " the father of American manufactures," who had been apprenticed to a manufacturer of cotton

machinery, and was particularly familiar with Arkwright's machines and processes, came to this country in 1789, and in the following year started the first cotton *factory* at Pawtucket, Rhode Island.

The factory system secured its first real foothold, however, between 1806 and 1815, when the Non-Intercourse Acts, the Embargo, and the War of 1812, by suppressing trade with Europe, forced the American people to do their own manufacturing, and turned large amounts of capital, which had previously been employed in trade and shipping, into manufactures. The growth during this period of isolation was extraordinary. In 1804 only four cotton mills were in operation. " In 1807 there were fifteen cotton mills running 8000 spindles and producing 300,000 pounds of cotton yarn annually. In 1811 there were eighty-seven mills operating 80,000 spindles, producing 2,880,000 pounds of yarn per year and employing 4000 men, women, and children. In 1815, 500,000 spindles gave employment to 76,000 persons, with a pay-roll of $15,000,000 per year." [1] When resumption of peace with Great Britain opened the new American industries to the fierce competition of the older English manufacturers, many failures and much suffering ensued, as a consequence of which increased protection was granted in the tariff acts of 1816, 1824, and 1828. A little later, in the Middle Atlantic and New England States, the period of factory production had fully arrived. A separate class of wage earners was appearing, who were especially appealed to by new arguments concerning wages in the tariff discussions; workingmen's parties were organized; strikes and trade unions multiplied, and the latter were combined into municipal and State federations; in the thirties and forties radical reformers linked the " white slaves " of the North with the negro slaves of the South and worked for the abolition of both " wage and chattel slavery "; the factory town and the city slum became recognized economic conditions, and the dangers of the latter were multiplied by the heavy immigration after 1845. By the middle of the nineteenth century the Industrial Revolution was in full sway, and the economic triumph of modern capitalism was assured.

[1] Coman, *Industrial History of the United States* (The Macmillan Co., New York, 1912), p. 184.

As might be supposed, the Industrial Revolution produced far less suffering and want in the United States than in England. The evils attributable to the Industrial Revolution in England were of two kinds. One arose from the rapidity and magnitude of the industrial change itself; the other was due, not to the change, but to the system under which the new industry was conducted — the system of capitalistic industry working in a régime of practically unregulated competition. In our country the evils resulting from transition alone were slight. Our manufacturing industries were scarcely started when the spinning jenny, the power loom, and the steam engine were introduced, and so almost from the beginning the factory system seemed the natural one. Thus, the change which in England was a revolution was in America an evolution, a process of construction with little destruction. And for a time even those evils inherent in the system itself were mitigated and disguised by the immense natural wealth of this country, the ease with which land could be obtained, and the unusual mobility of our working people which permitted them to take quick advantage of the unusual opportunities open to them.

But these ameliorating agencies served only to check and delay, not to destroy, the evil possibilities of the new industrial system. Extremes of wealth and alienation of social classes have become so great as to arouse the apprehension of all thoughtful men. Labor riots that call for military interference testify to the fact that we have not escaped, that in the future we can hope less and less to escape, the friction that accompanies all unfraternal relations among men.

The Development of Agriculture. — The presence and power of those economic forces which softened the asperities of the new industrial system in America are revealed in a particularly striking way in the history of American agriculture. In England, it will be remembered, the changes in agriculture intensified the evils of the Industrial Revolution, led to the consolidation of small farms into large landed estates, and put the actual business of farming largely into the hands of tenants. None of these things happened in the United States. The great area of unoccupied land served as an outlet for our rapidly growing population, so that between

1850 and 1900 the number, acreage, and output of our farms increased more rapidly than our population. Farms were not consolidated but broken up; even today nearly two thirds of our farms are operated by their owners; and until the 1920 census, more persons were reported employed in agriculture than in any other branch of industry. Between 1880 and 1920 the proportion of all "breadwinners" (persons ten years old and over gainfully occupied) engaged in agriculture fell from 44 to 26 per cent, and is continuing to decrease. But great improvement in agricultural methods and machinery made it possible for the relatively smaller farm population to satisfy the demand for agricultural produce even more completely at the end than in the middle of the nineteenth century, and still to leave a surplus, though a relatively smaller one, for export. The machine power introduced into farming more than took the place of those persons and their descendants who abandoned agriculture. It has been estimated, for instance, that in 1895 it actually required only about 120,000,000 days' work to produce the nine principal farm crops of that year; whereas, had they been produced by the methods and machinery of 1850, at least 570,000,000 days' work would have been required.[2]

But in the course of economic evolution, as our country became older, some of the agricultural conditions which accompanied the Industrial Revolution in England made their appearance in America. The twentieth century ushered in a new era in American agricultural development. With the introduction of improved methods, requiring increasing capital expenditures, the costs of acquiring and maintaining a farm have, until recently greatly increased. The result has been a slower rate of growth in the number of farms in operation; and at the same time a proportional increase in the number operated by tenants rather than by owners. Between 1900 and 1920 the number and acreage of farms increased far less rapidly than the population, and between 1920 and 1925 actually decreased. The growth of farm tenancy appeared to be closely connected with an extraordinary increase in farm values.

[2] H. W. Quaintance, "The Influence of Farm Machinery on Production and Labor," *Publications of the American Economic Association*, Third Series (November, 1904), Vol. V, No. 4, pp. 27–29.

"The increase during the ten years from 1900 to 1910 in the value of farm property was equal to the total increase in the value of farm property in the United States from the landing of Columbus until 1900." [3] The value of farm land increased 118 per cent between 1900 and 1910, and 90 per cent between 1910 and 1920. From 1900 to 1920 the number of farms operated by tenants increased 21 per cent as against an increase of 6 per cent in the number operated by owners. More important still, the average value of land, buildings, and equipment per farm increased from $3560 in 1900 to $12,084 in 1920. Owing largely to the decline in agricultural prices after 1920 and the ensuing agricultural depression, there occurred between 1920 and 1925 an actual decrease in the total number of farms, a 27 per cent decrease in the value of farm land, with a fall in the average value to $8949, and a small decrease in the number of farm owners. On the other hand, the number of farm tenants continued to increase slightly.

Manufactures. — In agriculture, the passage of time has not brought about a highly capitalized form of industry. The typical farm represents a relatively small investment and is tilled by its owner; there is no sharp distinction between employees; unions of wage earners are unknown in most parts of the country and passage from the wage-earning to the employing class is still common. In manufactures, practically all these conditions have been reversed since the end of the eighteenth century. And it is the tone of the manufacturing industry rather than that of agriculture which represents the keynote of the modern economic movement, because agriculture is constantly decreasing while manufacturing and allied industries are constantly increasing in *relative* importance. At the beginning of the last decade of the eighteenth century, seven eighths of the working population were employed in agriculture, and the manufactured products of the country were valued at $20,000,000. Half a century later, in 1840, 77.5 per cent were employed in agriculture, 16.5 per cent in trades and manufactures alone, and the products of the manufacturing industries were valued at $483,000,000. Fifty years later, in 1890, 35.7 per cent

[3] J. L. Coulter, "Agriculture in the United States," *Quarterly Journal of Economics* (November, 1912), Vol. XXVII, pp. 9–13.

were in agriculture, 24.4 per cent in manufacturing and mechanical pursuits, and the manufactured products were valued at $9,370,000,000. In 1920 26.3 per cent were in agriculture and 30.8 per cent in manufacturing and mechanical pursuits, while the value of manufactured products had reached in 1925 the enormous sum of $62,713,713,730.

The change in the character of industry has been even more striking than its growth and expansion. In the first place, machinery and capital have become increasingly prominent. In 1850, for instance, $559 worth of capital was invested for each wage earner, while in 1919 the average amount of capital per wage earner was $4935.[4] In the second place, the organization of industry has changed, so that individual ownership and ordinary partnership are rapidly being replaced by the corporation. At the beginning of the nineteenth century, corporations, though not unknown in commerce and banking, were very uncommon in the manufacturing industries. In 1919, incorporated companies employed 86.5 per cent of the wage earners and manufactured 87 per cent of the goods produced in all the manufacturing industries.

This change in organization has been a powerful factor in destroying the personal relation between the owners of capital and the wage earners who man their plants, and has thus helped to widen the breach between capital and labor. It has also contributed greatly to the concentration of industrial control. Law and custom in this country have very generally combined to make the small stockholder in the larger corporations a virtual nonentity so far as practical participation in the management of the corporation is concerned. Incorporation, then, instead of introducing a greater measure of real industrial coöperation and thus democratizing industry has too often turned out to be an ingenious device by which energetic promoters borrow or secure the spare savings of the community on the most flexible terms and with a minimum of responsibility. In recent years bonus and other plans to spread the ownership of stock among employees and customers have

[4] Owing to variations in the definition of "capital" and other changes, the statistical comparisons made in this and the preceding paragraph can be accepted only as revealing broad tendencies and not as accurate measurements.

developed rapidly, but they are still confined to a comparatively narrow field and in general the corporation has worked toward the concentration of industrial *control*.

Other forces, moreover, have been working toward industrial concentration, the most powerful of which, perhaps, has been competition itself. In the nineteenth century the competition among rival manufacturers was bitter and practically unrestricted. Tied down to their large investments of fixed capital, they were compelled to stand and fight without quarter. In every such war the number of combatants tends to decrease. As old rivals are killed off, the successful acquire greater skill and greater power in the conflict. With the passage of time greater and greater equipment is required to give any hope of a successful struggle; and some of the contestants, learning prudence from the struggle, combine to increase their fighting power. The inevitable result, whether through simple survival of the fittest or through combination, is a marked increase in the size and importance of the industrial unit. Between 1899 and 1925, the number of establishments in the factory industries decreased by about 10 per cent, but the value of their products increased nearly 600 per cent.

The movement is not all one way. The size of the average establishment decreases frequently when the industry suffers a decline; and small establishments such as automobile repair shops multiply rapidly in some lines for other reasons. But these counter movements are comparatively unimportant, and census statistics understate rather than overstate the growth of large-scale business. The extent to which large-scale production had come to dominate our manufacturing industries in the year 1925 is shown in the accompanying table, which will repay careful study. Establishments of the largest size, *i.e.* those whose annual output exceeded $1,000,000, constituted 5.6 per cent of the number of establishments, but manufactured over two thirds of all the goods. Nine tenths of the wage earners were employed in establishments having an output of more than $100,000 each. The consolidation and integration of industry and related questions are discussed at greater length in Chapter VII.

Transport and Railways. — The industrial concentration of

TABLE III

STATISTICS OF MANUFACTURES BY SIZE OF ESTABLISHMENTS MEASURED BY VALUE OF PRODUCTS. UNITED STATES: 1925 [5]

		All Establishments	Establishments with Annual Product Worth				
			$5,000 but less than $20,000	$20,000 but less than $100,000	$100,000 but less than $500,000	$500,000 but less than $1,000,000	Over $1,000,000
Establishments	Number	187,390	55,876	68,951	42,209	9,771	10,583
	Per Cent	100	29.8	36.8	22.5	5.2	5.6
Wage Earners	Number	8,384,261	156,373	660,309	1,675,911	1,131,439	4,760,229
	Per Cent	100	1.9	7.9	20.0	13.5	56.8
Value of Product	Amount	$62,713,713,680	628,373,403	3,272,196,822	9,576,090,022	6,870,112,293	42,366,941,140
	Per Cent	100	1.0	5.2	15.3	11.0	67.6

[5] Since 1923 the biennial Census of Manufactures does not include manufacturing industries with annual products valued at less than $5,000. This has resulted in a reduction of 21.6 per cent in the number of establishments, but of less than 1 per cent of the other items.

which we have been speaking does not necessarily lessen competition at all. It merely puts the business into the hands of increasingly powerful rivals among whom competition may be all the more bitter because of the size of the contestants. But in the principal transport industries time has demonstrated that another rule prevails: competition has failed to protect the consumer, and the progress of consolidation has operated to emphasize the monopolistic character of the industry.

The history of transport in this country since the establishment of the Union falls into three stages. The "turnpike period" extends from 1790, the year in which the first turnpike was constructed, until 1816, when steam navigation upon the Ohio River became fairly regular. The second stage, the "river and canal period," ends after the panic of 1837, and is marked particularly by the introduction of steam travel on the Hudson (1807), the Ohio, and Mississippi rivers (1808 to 1817), and the opening of the Erie Canal in 1825. The last stage, the "period of the railway," extends from about 1842 to the present time. In contrasting these periods, it is not meant to suggest that canals were not built before 1790, or that turnpikes are not important at the present time. As a matter of fact, a canal was built in Orange County, New York, as early as 1750; and the last few decades have witnessed a rapid and costly improvement of our highways. These "periods" merely indicate the kind of transport facilities which at different times have been most prominent in the minds of the people.

In the development of the railway, certain approximately definite stages may also be distinguished. Between 1830 (when the first important railway — the Baltimore and Ohio — was opened) and 1840, the railways were short local lines used in large degree to supplement or piece out the rivers and canals. In the next period, 1840 to 1870, many new roads were built, and the process of "linear consolidation" — the linking together of local companies into through trunk lines — began. By 1869 both the New York Central and the Pennsylvania had effected through connections with Chicago. In the same year, the completion of the Central and Union Pacific railways linked the Pacific Ocean with the eastern railways, and the continent was spanned.

The period between 1870 and 1890 is marked by three striking developments. First, it was a period of feverish expansion: the railway mileage of the country increased from 52,000 to 160,000 miles, more than 200 per cent. Secondly, the completion of several through routes from the Atlantic seaboard to Chicago brought about a period of destructive competition, which led to discrimination and rebating in through traffic and the overcharging of local or non-competitive traffic. "Wherever competition appeared, discrimination followed; and in the scramble for business the stronger shippers were favored at the expense of the weaker. Where there was no competition, the public felt that they were being oppressed by a monopoly, to make up for sacrifice rates elsewhere — a feeling which was intensified by the absentee ownership of the western roads." [6] Thirdly, this condition of demoralization led to a double reaction. The railways sought to restrain competition by the creation of pools and traffic agreements, while the people sought to protect themselves through legislation and the creation of railway commissions. The Federal or Interstate Commerce Commission was established in 1887.

The last period, from 1890 to the World War, was marked by an unprecedented amount of combination among competing roads, and by a growing belief that the railway industry is inherently monopolistic and must be subjected to public control. Thus, by the time the control of the magnificent railway system of this country (greater in extent than all the railways of Europe combined) had fallen into the hands of a comparatively small number of groups, the people themselves had perfected administrative machinery strong enough, it was hoped, to hold the monopoly in check. Until lately strong efforts were made to preserve competition in the railway industry, but it has been found that in the main reliance must be placed upon regulation rather than competition. The amendment of the Interstate Commerce Act in 1906 and the Transportation Act of 1920 constitute public recognition of the fact that the old problem of private competition *versus* public regulation has given way to the new problem of public regulation *versus* public ownership.

[6] H. C. Emery in *The Cambridge Modern History* (The Cambridge University Press, Cambridge, 1907–1925), Vol. VII, p. 706.

It would be almost impossible to exaggerate the part which transport agencies, and particularly the railways, have played in the economic development of this country. Ours is a country of "magnificent distances," and because of this fact, it was particularly necessary that superior means of communication and transport should be early introduced, if the country was to be held together. After the Revolutionary War there was real danger that the settlers west of the Alleghanies would be completely alienated. Washington was quick to realize this fact. "The Western settlers," he wrote to the governor of Virginia, shortly after the Revolutionary War, "stand as it were upon a pivot. The touch of a feather would turn them any way. They have looked down the Mississippi until the Spaniards, very impoliticly, I think, for themselves, threw difficulties in their way; and they looked that way for no other reason than because they could glide gently down the stream, without considering, perhaps, the difficulties of the voyage back again, and the time necessary to perform it in; and because they have no other means of coming to us but by long land transportations and unimproved roads."

This danger was averted by the building of the Cumberland Road, the introduction of steam navigation on the Ohio, and the completion of the Erie Canal. Later it looked as if the use of the Mississippi and other natural avenues of communication would link the Middle West more closely to the South than the northeastern States, thus giving the South a preponderant influence in the inevitable struggle over slavery. This problem, however, was solved by the railways, which, unlike the rivers, ran east and west rather than north and south. The railway was thus a strong factor in the preservation of the Union. And since the Civil War, western settlement has followed the railway. It has been the great pioneering agency of the last half century, and the rapid settlement of the West was due, in the main, to the striking progress of railway transport in the latter part of the nineteenth century.

In the development of our transport facilities the State has been from the very first an active partner of private enterprise. Not only has the State built roads, canals, and railways of its own, but it has subsidized the private companies which engaged in similar

enterprises, with prodigal liberality. Of the total State debts — $170,800,000 in all — contracted prior to 1838, $60,200,000 were chargeable to canals, $42,870,000 to railways, $52,600,000 to banks, $6,600,000 to roads, and $8,500,000 to miscellaneous objects. After the panic of 1837 there was little direct construction of internal improvements by the State, but national, state, and local governments vied with one another in assisting private companies by exemptions from taxation and by grants of land, money, and credit. How much these subsidies amounted to we do not know, but the aggregate must have been enormous, as appears from the statistics of land grants. "During the twenty-one years between 1850 and 1871, at which time land grants were discontinued, more than 159,000,000 acres were placed at the disposal of railroad corporations by the federal government and 55,000,000 by the state governments."[7] In their origin and genesis, therefore, as well as in their essential nature, the railways are quasi-public institutions.

The Labor Movement. — Capitalistic industry has shown a tendency to pass from a period of cut-throat rivalry to a period of combination amounting in many cases to monopoly. A similar phenomenon is discernible in the labor movement. Before 1820 shoemaking and printing were the only trades in which unions existed. Between 1825 and the panic of 1837, however, unions multiplied rapidly, and efforts were made to unite the scattered "locals" of separate trades into broader national unions, and to confederate the unions of different trades into municipal and district federations. These efforts were only partially successful, however, and it was not until after 1860 that permanent national unions were established, and not until the organization of the Knights of Labor in 1869 that a fairly permanent national federation was created. The Knights of Labor reached the zenith of its power about 1886; and since the panic of 1893 its place has been gradually taken by the American Federation of Labor. The American Federation of Labor is a "union of unions." A Federation of about 106 national craft and trade-unions, it includes nearly all the

[7] Bogart, *Economic History of the United States* (Longmans, Green and Co., New York, 1907), p. 308.

organized labor in the United States, except the four Railroad Brotherhoods, the Amalgamated Clothing Workers, and the Industrial Workers of the World.[8] At the end of the nineteenth century the membership of the American Federation of Labor numbered about 250,000. By 1920 it had grown to 4,000,000. It suffered from the depression of 1921 and in 1928 the membership was a little less than 3,000,000. Including organizations independent of the American Federation of Labor, the aggregate membership of American trade-unions was over 5,000,000 in 1920, but less than 4,000,000 in 1928.

There are at least four periods distinguishable in the history of American trade-unionism; the *germinal* period, 1789–1827; the *revolutionary period*, 1825–1860, so called because of the close connection in this period between trade-unionism and movements for political and economic reforms; the period of *nationalization and federation*, 1860–1897; and the period of *collective bargaining*, 1898 to the present time. We speak of the present epoch as the period of collective bargaining because of the rapid expansion of unionism, and the establishment of many new national or district systems of collective bargaining after the industrial depression of 1893–1897; and because it is only in recent years that employers and the general public have recognized that the trade-union is here to stay, and must be regarded as a permanent institution with which many employers of labor must bargain, whether they like it or not.

During the World War, unions in the United States made larger gains than in any other comparable period. Labor was scarce, and, for a while, the need of it was imperative. Monetary inflation in the war and post-war periods led to a rapid rise of profits, prices, and the cost of living. Labor was in a position to bargain effectively for the maintenance and even the betterment of its own relative position. The federal government, constrained by the urgent necessities of the war, led the way in recognizing the right of labor to organize and in dealing, on its own account, with the representatives of labor organizations. The American Federation of Labor was, for the time being, brought into close coöperation

[8] J. A. Estey, *The Labor Problem* (McGraw-Hill Book Co, New York, 1928), pp. 25–26.

with the government. Agreements were entered into covering the conditions of employment on government work. The taking over of the railways by the government opened the way for an advance of unionism among all grades of railway workers. The War Labor Board put pressure upon private employers to recognize the right of labor to organize and to bargain collectively. Beginning with the Adamson Law, of 1916, establishing a basic eight-hour day for train operatives, the government put its influence on the side of shorter working hours and higher wages.

Whether as a result of war experience or of more fundamental forces, the American labor movement shows marked differences since the war. The avowed aim of the trade-union before the war was a complete combination of the workers in a given occupation or industry. This policy, aggressively pursued, engendered a counter movement among employers, which expressed itself concretely in the widespread organization of *employers' associations* with equally aggressive aims and policies. They organized along the same lines as trade-unions and fought them with their own weapons, matching the lockout against the strike and the black list against the boycott.

This organized hostility has abated noticeably in recent years. The employers have turned their energies largely to the development of employee representation plans, "company unions" or "shop councils," and it is estimated that more than 1,000,000 employers participate in such organizations. The trade-unions on their part have displayed a new attitude towards industrial productivity: have coöperated with employers (as in the "B and O plan")[9] in experiments designed to increase efficiency and output; and with regard to the introduction of new machinery insist only that industry shall assume some real responsibility for unemployment caused thereby, and that wages shall be raised as the productivity of labor rises. The country has been unusually free from serious labor disturbances since 1922. These and related topics are reserved for more detailed discussion in Chapter XXXII.

[9] The bi-weekly conferences of managers and employees in the Baltimore and Ohio Railway Shops have obtained excellent results in improving transport conditions.

State Regulation of Industry. — The growing interference of the State in the conflict between capital and labor brings us naturally to the general subject of the State in relation to industry. When the American colonies were planted, mercantilism was the dominant political philosophy; but, as we have seen, mercantilism gave way to a philosophy of individualism in the eighteenth century, under the combined influence of the reaction against the restrictive politics of the British government, the natural antipathy of a frontier community to legal restraint, the philosophy of Locke, and in a minor degree the teachings of the French physiocrats. The triumph of individualism, as a philosophical system, came at the critical period when our state and federal constitutions were in the making, and it thus became intrenched in the organic law of the nation, giving constitutional sanction to the doctrine of *laissez-faire*, and establishing a constitutional guarantee of *freedom of contract*, in accordance with which adult men were left "free" to work as long as they "pleased" (or were compelled), for whatever wages they were "pleased" (or forced) to accept. Under the influence of these doctrines, for instance, our courts have annulled such wholesome regulations as laws prohibiting payment of wages in store orders, and statutes limiting the hours of labor of men in bakeshops, or other exhausting occupations. Decades of experience have amply proved that the average wage earner is too weak to protect himself against many evils; but our constitutional law has made it exceedingly difficult for the State to protect him. Fortunately, however, the American people have a fashion of bending their constitutional law to fit the facts, not blinding themselves to the facts by worshiping the law; and in recent years the Supreme Court of the United States has sanctioned laws requiring the semi-monthly payment of wages, prohibiting the payment of wages in goods, and requiring the wages of certain miners to be based upon the weight of the coal before screening. Many of the state courts, however, are far less enlightened.

It is impossible to show in detail how the free trade and individualistic tendencies of the Revolutionary period gave way to a constantly growing program of State interference. The doctrine of *laissez-faire* was never adopted in its entirety, and year by year

we have moved farther and farther away from it. State interference began with the adoption of a tariff act in 1789, "for the support of the government, for the discharge of the debts of the United States, *and the encouragement and protection of manufactures*"; reached almost a maximum in the Embargo Act of 1807; showed itself in the policy of internal improvements and government aid to turnpike, canal, and railway companies; brought us the great mass of labor and factory legislation which has been adopted by so many states since the Civil War; led in turn to the Interstate Commerce Act of 1887, the Sherman Anti-trust Act of 1890, the National Meat Inspection and Pure Food Laws; and finally culminated in the Clayton Anti-trust and Federal Trade Commission Acts of 1914, the Transportation Act of 1920, and the Watson-Parker Act of 1926.

Excessive competition among laborers, which forced them to accept work under conditions destructive of physique and morals, has led to the factory acts, prohibition of child labor, and limitation of the hours of labor of women; excessive competition leading to the adulteration of products and their manufacture under insanitary conditions has given us the meat inspection and pure food laws; the excesses of competition among corporations, leading to combination and oppressive monopoly, have brought us the anti-trust acts and regulation through state and national commissions. The rapid adoption of workmen's compensation laws by the state governments in recent years, is striking evidence that we have entered a new era, in which State interference and control is recognized as socially desirable in some fields. Whether the individualistic character of industrial society endures or disappears, individualists and socialists alike are now agreed that the State must interfere. As a prominent English statesman expressed it, "We are all socialists now," although he merely meant by this statement that the passive theory of government has been wholly discredited.

Up to the present time State interference has had as its principal object the improvement and preservation of competition. The conscientious manufacturer who would not poison consumers for the sake of swelling his profits, the high-minded employer who would not "sweat" women and children merely to reduce the cost

of production, the delicately scrupulous shipper who would not undermine a rival by forcing a common carrier to pay him rebates, — all these have suffered as much from the abuses of competition as the general public itself. Industry under the competitive régime is a rough game played for high stakes, and if it is to be played fairly, there must be intelligent rules of the game and an umpire powerful enough to enforce them upon all contestants alike. If the manufacturers of Massachusetts are prohibited from employing children under fourteen years of age while those of South Carolina are encouraged to do so, competition becomes unfair, and the victory goes to the contestant guilty of the greatest number of fouls.

State interference, as we have said, has had as its principal object the maintenance of competition upon a higher and more wholesome basis. But this has not been its sole object. Our regulation of railway and public utility companies aims not to bolster up or preserve competition among such companies, but to introduce *a substitute* for competition; and it is possible that in certain lines of industry regulated monopoly may prove on the whole more beneficial than regulated competition. Whether it is desirable, whether in the long run it will be possible, to maintain a competitive as distinguished from a socialistic régime of industrial society, may be said to be the supreme economic problem of the twentieth century.

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BOOK II

PRINCIPLES AND PROBLEMS

PART I

PRODUCTION AND CONSUMPTION

CHAPTER VI

ELEMENTARY CONCEPTS

We pass at this point from economic history to the fundamental principles of present-day economics, often referred to as "economic theory." The phenomena analyzed are for the most part familiar facts of everyday life. But their full significance is not apparent on the surface. Upon close scrutiny, they develop new meanings and unexpected mysteries. Some of the more important concepts require, for an adequate understanding, patient and detailed analysis. Their importance could scarcely be exaggerated. Both the progress and the problems, the achievements and the mistakes of a science, are recorded in its more important concepts and terms. Properly understood, they reflect both the history and the essence of the principles of the science.

The technical terms or labels applied to these concepts occupy an anomalous position in economic science. They are at once important and unimportant. When, as occasionally happens, they chance to be used in statute laws, they assume a position of great practical importance. Thus, the political history of the United States was materially altered when, in 1895, the Supreme Court, reversing previous decisions by a majority of one vote, held that a federal income tax is in practical effect a "direct tax." And since the war, legal cases involving hundreds of millions of dollars of federal taxes have turned, either for or against the taxpayer, upon subtle differences of opinion about the meaning of the words "income" and "capital."

But neither the practical importance conferred upon these terms by occasional legal use, nor the rapid advance of economic science, has brought about a uniform definition or use of the basic technical terms. A hundred years ago economics or political economy seemed on the eve of accepting a set of standard terms with meanings measurably different from those attached to these terms in popular speech. And this older movement towards the adoption of a technical nomenclature still gives to some economic terms a twist or connotation not found in popular speech. But these traditional terms are not always adhered to by economic authorities. "One wonders," says a recent writer upon terminology, ". . . if there is another branch of knowledge which aspires to be classed as a science in which there is so great agreement as to the facts and so little agreement as to the meanings of the terms used to describe those facts." [1]

Traditional Terms. — Simply to avoid misunderstanding, we note here a few traditional terms which are still used by most economists, with a meaning or emphasis not found in popular speech. The treatment here is provisional and most of the terms noted in this section will be more carefully defined in later chapters.

For many years most economic treatises recognized four main divisions of the science, dealing respectively with the Production, Consumption, Exchange, and Distribution of Wealth. From this usage all four terms have come to have a special economic meaning. *Production* means the creation of new or additional utilities, goods or "values" (these words being here used as equivalents) and includes the processes of transport and marketing as well as those of manufacture and mining. *Consumption* means the use or using up of utilities, for "just as man can produce only utilities, so he can consume nothing more." [2] *Exchange* means the voluntary transfer of wealth or the rendering of personal service in return for other wealth, money, or the equivalent of money. The word "ex-

[1] Clark Warburton, "Economic Terminology," *The American Economic Review* (March, 1928), Vol. XVIII, No. I, p. 73.

[2] A. Marshall, *Principles of Economics* (The Macmillan Co., London, 1920, 8th ed.) Vol. I, p. 64. Notice, too, that commodities are destroyed, not by consumption, but, "by those numerous gradual agents which we call collectively *time*." Cf. Senior, *Political Economy* (R. Griffin and Co., London, 1858), p. 54.

change" is repeatedly used in such phrases as "the exchange economy" in order to contrast the modern system of production for the market with older self-sufficing systems in which each man produced or labored primarily for himself, his family, or his clan. *Distribution* is used in a specially technical sense, having no connection with transport and marketing, and meaning the division of the product of industry among the various *factors* or *agents of production*. In actual life the agents of production are almost infinite in number, and to simplify the analysis of production the economist has grouped them in four categories or classes: *labor*, *land*, *capital*, and the *enterpriser* or *entrepreneur*. The last, a particularly difficult term, is applied to the ultimate owners of business enterprises, those who make the final decisions and assume the risks involved in such decisions. Corresponding to these four factors are four basic *shares* in the distribution of the product: *wages*, *rent*, *interest*, and *profits*. *Rent*, unless otherwise stated, means land rent, excluding the hire of equipment, buildings, and other improvements.

With these preliminary explanations, we pass to a group of concepts and terms which require more careful analysis and definition at this stage.

Goods. — Perhaps the most logical starting point for the science of economics is found in human wants and the fact that they are insatiable. Satisfy man's primary needs and he seeks luxuries and conveniences. Provide luxuries and conveniences and he will find use for more and more of them. *Things that satisfy human wants we call goods* — a term of the widest import, including not only wares, commodities, and services produced by man, but land or natural resources as well. Goods include slaves but not free men, partly because we insist in our speech upon emphasizing the vital distinction between man "the end" and goods the "means of ministering to his satisfactions," and partly because free human beings are not exchangeable — a fact which leads to certain fundamental principles of democratic jurisprudence. But this complete separation of man from goods leads us into logical inconsistencies which must be recognized. After all, man, in his capacity of producer, is the servant of servants, the foremost instrument of pro-

duction; and in measuring the wealth of nations, for instance, it would be logically desirable, if practicable, to group human beings in their productive capacity with goods, as constituting the general basis or source of the satisfaction of man's material wants.

Utility. — *Anything (except free human beings) capable of satisfying a human want is a good and possesses utility. Utility is the quality which makes a thing a good.* But to understand the term "utility" as used in economics, two important facts must be borne in mind. First, utility is not a physical or immutable quality of things. Economics, as has been shown, is a science of relations, of an economic kind, among men. Goods are of interest in some of the natural sciences merely as physical objects; but they have little significance in economics until they come into relation with man. Secondly, utility is the power to satisfy wants, not the power to confer benefits. Cigars have utility as well as bread or books, for all three satisfy wants. Economic wants may be serious, frivolous, or positively pernicious, but the objects of those wants all possess utility in the economic sense. It is significant to note that repeated efforts have been made to replace the word "utility" with some more precise term. The terms "want for," "wantability," "wantedness," "desirability," "advantage," and "rarety" have all been suggested or used by particular writers. But "utility" persists.

Free Goods and Economic Goods. — It is apparent that the wants we have mentioned are very unlike in character. Air and water, for instance, we seldom think of as things we want at all. We usually have them in abundance and without exertion, so that, though they satisfy wants as vital as any we know, we seldom spend any time thinking about them or our absolute dependence upon them. *These are free goods, that is, goods that exist in quantities sufficient to supply all wants for them.* Land in a new country is frequently a free good. But the list of things that are free is quickly exhausted. *Economic goods are those which exist in quantities less than sufficient to satisfy all wants for them.* Hence, we must economize in the use of them; that is, we can secure more of any one good only by contenting ourselves with less of others. Usually they are obtained only by exertion. It is, however, their scarcity

as compared with the human wants which they have the power to satisfy, and not the fact that they have cost labor, that makes them economic goods. This might appear paradoxical, if it were not for the fact that some goods command a price without being worked on by man. Meteoric stones, for example, are esteemed on account of their scarcity and not by reason of any one's efforts to produce them.[3]

Economic goods are wanted because of the services they may be made to render. Each economic good may thus be regarded as a bundle of potential services or benefits, the rights to which are broadly referred to as *property rights*. These rights may be segregated and earmarked. Thus A (" a life tenant ") may own the right to occupy a farmhouse during her life, while B (" the remainderman ") owns the right to succeed to the farmhouse on the death of A, and in addition owns the rest of the farm — subject, however to C's ownership of the shooting rights over the farm and D's ownership of the mineral rights in the farm land. Economic evolution has brought about an amazing diversification of property rights and an increasing disposition to represent these rights by documentary evidences of ownership which are usually but not necessarily negotiable. This process results in something akin to duplication. We have the tangible good — a bundle of rights — and deeds or securities representing these rights. It is obviously necessary in counting or measuring economic goods not to count both the good and a right or rights to the same good.

It does not follow, however, that these deeds or instruments evidencing property rights always involve duplication. Most forms of so-called " intangible property " — defined in the excess profits tax law as consisting of " patents, copyrights, secret processes and formulae, good will, trade-marks, trade brands, franchises, and other like property " — cannot be identified as rights to tangible economic goods. They are " wanted," that is to say, they have value, principally because they may be used to increase the money income of their owners or beneficiaries. But this increase of money income does not represent the price of the service of any

[3] Cf. F. W. Taussig, *Principles of Economics* (The Macmillan Co., New York, 1921), Vol. I, pp. 1–7.

tangible good — it comes sometimes from trade or patronage which follows the good will or trade brand; sometimes from increased production ascribable to the use of the patented device, and sometimes from other sources. The increased money income is not wholly traceable either to tangible goods or to human beings. It may come in large part from skillful advertising; from the courts and government; from the team play and *esprit* of a business organization.

The intangible property of American business concerns is worth billions. It is obviously a reality and not always a mere title or claim to tangible property. Experience demonstrates that there is constant need of a term which shall cover or include both tangible and intangible property. For that purpose the most suitable word is wealth.

Wealth, as we use the term, and as it is commonly used in ordinary speech, covers both economic goods and property rights having an exchange value, with the obvious proviso that wealth shall not be so measured as to include both an economic good (as an entity or bundle of rights) and a property right to the use or benefit of the same good. A rich man's wealth, under this definition, may consist largely or wholly of book accounts, copyrights, or secret processes. Similarly, the wealth of the American people includes the patents from which they draw foreign royalties, the foreign bonds from which they derive interest and the good will which their business concerns have acquired abroad. From these sources, among others, they draw income and the enjoyments or satisfactions which the term wealth denotes. Wealth therefore consists of those things and rights which are limited in supply, exchangeable, and capable directly or indirectly of satisfying human wants.

Should Property Rights Be Considered as Wealth? — Many able economists object to the treatment of property rights as wealth,[4] particularly as social wealth. While controversy about terms and definitions is not usually helpful, a brief discussion of

[4] Irving Fisher, for example, claims that: "A railway, a railway share and a railway trip are not three separate items of wealth; they are respectively wealth, a title to that wealth, and a service of that wealth." *The Nature of Capital and Income* (The Macmillan Co., New York, 1912), p. 4.

this difference of opinion is worth while because of the light which it throws upon important economic facts. If the facts can be correctly ascertained and soundly interpreted, the questions of terminology will take care of themselves.

(*a*) We treat property rights as wealth not only because they are generally accepted as such in the language of business, law and accountancy, but because when the bundle of rights represented by an economic good is split up, the aggregate amount of service which the good is capable of rendering is usually altered. If wisely undertaken, such segregation of rights facilitates the use or disposition of the good and increases its utility. It constitutes a process of production. If unwisely undertaken, the reverse is true and the utility of the good is impaired. The most familiar illustration, perhaps, is found in the constant recapitalization of corporations — *i.e.*, changing the proportions of common stock, preferred stock, floating debt, and funded debt. All these forms of stock and debt are, in one economic sense, claims upon the assets of the corporation. But the earning power of the corporation and the value of its assets may be materially altered for better or worse by rearrangement and redistribution of these rights or claims.

As has been shown, economic evolution has brought about an increasing segregation or ear-marking of property rights. This process has materially affected wealth. It is the means by which material things, particularly fixed property such as land and improvements, are liquefied and rendered easily negotiable. It enables owners of property who live far away from the property itself to sell or hypothecate it easily in whole or part. Wealth arises from a relation between man and things. The process which we are discussing brings the essence of the thing to the man.

(*b*) The treatment of property rights as wealth does not lead to double counting of the bundle and of the separate rights. In some cases, such as grain and a warehouse receipt for the grain, it would be so obviously absurd to count both that no intelligent person would confuse the two. In other cases double counting is prevented by the recognition of *negative wealth*. A $1000 bond is positive wealth to the creditor but negative wealth to the debtor, and the two cancel out substantially when national or social wealth

is estimated. When we value the tangible good we include only part of the bundle, and to get a correct total the excluded rights must be separately measured and added.

The good will of a prosperous business concern, such as the Ford Motor Company, is individual wealth. Some economists hold, however, that it is not social wealth because, they say, if a business man, A, loses his established trade — on which the good will rests — his competitors, B, C, and D, are the gainers and society as a whole is not affected. While A has the good will in question the assets or business wealth of B, C, and D are valued or measured subject to the adverse influence of A's trade advantage, whatever this may be. Consequently we must include the good will in A's wealth, or it is not counted at all either as individual or social wealth. But it is not to be taken for granted that A's good will is altogether offset by something analogous to "bad will" which automatically reduces his competitors' bundle of rights as we ordinarily measure them. One man's gain in this case is not necessarily another man's loss. Our economic life consists of relationships; and good will improves the functioning of these relationships. It is somewhat like lubricating oil in machinery. Good will, therefore, is to some extent a social asset. To a larger extent, perhaps, A's good will implies trade loss or negative good will to his competitors. But in either case, when we measure wealth by money, we must include good will in the wealth of its owner or beneficiary because it has been deducted in a real sense from the wealth of the competitors and trade rivals of such owner or beneficiary.

(*c*) The severest test of a definition of wealth, perhaps, is found in government bonds. Are they wealth? If so, does the government create or produce $1,000,000 of new wealth when it floats a bond issue of that amount? Obviously, it does not. Nevertheless the bonds constitute wealth, individual, and social. But this wealth is offset by the negative wealth represented by the obligation to pay the interest and principal of the bonds. In part, the positive value of government property is offset by the debt. In part, private wealth is similarly affected. The taxes required in order to pay interest and principal greatly reduce the amount of wealth

created; and this negative wealth is automatically taken into account when that wealth is valued. To the extent that these taxes fall upon personal earnings, the negative wealth in question reduces the "value of man" and not of goods. A logical inconsistency is here involved, but it is merely part of the larger inconsistency, noted above, which results from not treating men as wealth for certain economic purposes. To treat the pigs but not the men and women of a country as part of that country's wealth reflects the truth that men and women are infinitely different and more important than pigs, but it tends to make "social wealth" a particularly difficult and doubtful concept.

The government cannot create $1,000,000,000 of wealth by issuing paper money in that amount. The belief that it can do so is a dangerous delusion. *But the delusion is dangerous for the very reason that paper money is wealth, provided it is accepted freely in exchange.* The source of the delusion is found in the fact that when the government manufactures $1,000,000,000 of positive wealth for itself, it creates substantially the same volume of negative wealth for its citizens. The paper money is a forced loan. It automatically dilutes and reduces private wealth.

Measurement of Goods and Wealth. — Economic goods and wealth are quantitative concepts; they must be measured. And they have many different characteristics or "potencies" which should, if possible, be measured. Coal for instance, has weight, volume, heating capacity, utility, and market price along with many other qualities or characteristics which are theoretically or practically susceptible of measurement. All of these qualities or potencies are at times important in economic reasoning; but the distinctively economic method of measuring an economic good or article of wealth is to determine its exchange value or money price. *The exchange value of an article of wealth is the quantity of any other article which is given for it in exchange.* Unless qualified or otherwise modified, the word "value" as used in this book always means exchange value. *The price of an article, or its money value, is the amount of money which is given for it in exchange.* And when "wealth" is referred to we mean wealth measured in money, unless the contrary is plainly stated or suggested in the context.

The money measurement has gained its predominance in modern life largely because it is practical. Goods and services obtain a fairly well defined measurement in the countless sales and exchanges which take place every day. But other measurements of goods are quite as important as price measurements. Consider a free good such as sunlight. It is not wealth, but its utility is very great. Obviously we should have, if possible, a measure of *utility* or *total utility*, but such measurements are not practicable in the present state of economic science.

Articles of wealth are like free goods in that they possess utility but are unlike free goods in that they are scarce. The distinguishing characteristic of wealth is thus a joint product of scarcity and utility. This subtle form of utility as modified by scarcity is frequently referred to as *marginal utility* (a technical term more carefully defined in Chapter IX. It will suffice to notice here that this concept assumes that, with every increase in the amount of a thing a man has, the utility of it diminishes to him. Marginal utility is a psychological factor. It is "*a quality which we attribute to things, like color, but which, like color, exists only in ourselves.*" [5] To a single individual at any time, money constitutes a practicable measure of marginal utility; but no practicable method of measuring variations in the marginal utility of money from person to person and from time to time has yet been devised. Professor Irving Fisher has worked out an elaborate theoretical method for measuring the marginal utility of money and of certain classes of wealth to typical families at different times and places.[6] But some economists think that such a measure is theoretically as well as practically impossible.

It is obvious, however, that for many purposes we need to supplement mere money measurements and to get nearer to the actual meaning of wealth in terms of welfare and essential comfort. The most practical method of doing this is to measure in goods rather than in money. This is usually, but not always, accomplished by

[5] G. Tarde, *Psychologie Economique* (Alcan, Paris, 1902), Vol. I, p. 63. Cited by B. M. Anderson, *Social Value*, p. 17. Tarde's definition applies to value.

[6] "A Statistical Method for Measuring Marginal Utility and Testing the Justice of a Progressive Income Tax," in *Economic Essays in Honor of John Bates Clark* (The Macmillan Co., New York, 1927), pp. 156–193.

the device known as the index number, discussed in Chapters VIII and XVI. Thus, we distinguish what we call *real wages* or *real income* from *money wages* or *money income*. The term real[7] as applied to wages and income suggests measurement in goods rather than in money and connotes the satisfactions or benefits derived from these goods. In most such measurements there is an implicit assumption that each good or article of wealth represents a constant quantum; that the money changes in value or significance but that the goods do not. For many purposes this assumption is misleading and erroneous.

Characteristics of Wealth. — We bring together here certain considerations relating to the character and measurement of wealth which are particularly important from either the practical or scientific standpoints, or from both:

Wealth Does Not Measure Material Warfare. — It is a truism that wealth does not necessarily bring happiness or spiritual welfare. The point which will be made here is that wealth is not a trustworthy measure of economic or material welfare. There are several reasons for this conclusion. One is that wealth which ministers to debased or perverted wants, like the "layout" of an "opium joint," unquestionably operates to reduce economic welfare in the long run. Again, many important sources of wealth — such as the health and morals of a people, its intellectual habits and capacity for self-government — are not in themselves wealth. Most important of all is the consideration that growing scarcity may increase wealth, whereas it frequently does not make for welfare.

The relations between scarcity, wealth, and welfare are by no means simple. If a prosperous competitive business is converted into a monopoly by stealthy and illegal devices, wealth may possibly be increased but usually the welfare of the community is adversely affected. When a free good is transformed into wealth on account of scarcity due to the pressure of population or other causes the welfare of the community may be impaired; and

[7] The adjective *real* when applied to property or wealth usually means *fixed or immovable* property or wealth. When applied to taxes, it means taxes imposed upon the *thing* or *object*, with only minor reference to the personal conditions of the taxpayer.

again this may not be the case: It depends upon the actual situation. In a new country, for example, land is a free good. After the country has been settled, land becomes dearer. If it happens that it is dear simply on account of scarcity, due to pressure of population, and not on account of capital and labor invested in making it better and more usable, then the average citizen's wants are less well satisfied, in respect to land, than formerly. Since, however, more people have come into the country, the aggregate amount of human wants satisfied by the land is probably greater than it was before the population increased. Wealth, represented by land, has increased and this registers an increase of welfare in the sense that a larger volume of normal human wants is satisfied. It is often said that such situations represent or involve a growth in individual wealth but a diminution of social wealth. A more accurate statement is that there has been an increase of social wealth but that the average individual, owing to increasing numbers, has suffered a decline of comfort and material welfare in so far as he is dependent upon land for the satisfaction of his wants. This diminution, as has been pointed out by Professor J. B. Clark in his *Distribution of Wealth* and elsewhere, may be more than offset by improvement in other branches of production. As to the land what has actually happened is described elsewhere in this volume.

Consumption Goods, Capital Goods, and Capital. — Some economic goods yield satisfaction to human beings directly. From clothes, dwellings, food upon the table, musical instruments, and the like, we derive enjoyment directly. These are *consumption goods*. Other goods are of service only indirectly. A plow has utility, but we cannot eat or wear it. It simply helps to produce the things that we can enjoy. Such articles are *production goods*, also called *instrumental*, *indirect*, or *intermediate goods*.

The distinction is a matter of degree. Even the food upon the table is not quite ready to be enjoyed. It must be handled with knives and forks. This has led some writers to make no distinction between production and consumption goods. But great differences in degree are more important than many differences in kind. The distinction, it may also be noted, is not made on the ground of

durability. Consumption goods — a painting or a book, for example — may be very durable. The real ground of the distinction is found in a very important difference between *production for the market* and other activities. Economics does not concern itself, except incidentally, with household economy.[8]

Some production goods, such as cooking utensils and kitchen gardens, are reserved and used for the gratification of their owners' personal wants; while some consumption goods, such as dwelling houses leased by their owners to others, gratify their owners' wants only indirectly, through the income derived from them. *Production and consumption goods, thus devoted to the indirect satisfaction of their owners' wants through exchange or the acquisition of an income, are capital goods.*

The term "capital" is frequently used as a mere abbreviation for "capital goods" where the thought or statement applies to both. In strict usage, however, the term "capital goods" suggests physical measurement or measurement according to some standard of welfare or service, whereas "capital" connotes the value of capital goods and their measurement in terms of money. *Capital, therefore, means wealth devoted to the acquisition of an income through exchange, measuring both wealth and income in terms of money.*

Capital is distinguished from wealth in popular as well as scientific nomenclature to emphasize the significance of that part of wealth which, through abstinence or postponement on the part of its owners, is devoted to the satisfaction of the wants of others, particularly their future wants. Capital involves thrift and foresight, and the gainful employment of savings in the great processes of production or exchange. But it does not necessarily involve altruism. I refrain or abstain from using wealth which could be devoted to the immediate gratification of my personal wants, and devote it instead to production for the market or the satisfaction of the wants of others — *for a consideration.* Broadly speaking, the wealth so reserved is capital; the consideration is interest.

[8] Marshall points out that flour, when already in the house of the consumer for the purpose of cake-making, can be regarded as a consumers' good, "while not only the flour, but the cake itself is treated as a producers' good when in the hand of the confectioner." (*Principles of Economics*, Vol. I, p. 64, Note 3.)

Turning for a moment to *goods* regarded as capital (without measuring them in terms of money) we note that:

(*a*) Seed saved to plant next year is not capital if the crop is to be consumed by the saver. It satisfies the prudential test of capital, but not the exchange test. Capital is a phenomenon of an exchange economy, not of a Robinson Crusoe economy. The same conclusion applies to wealth held out of use or hoarded by a miser.

(*b*) Mr. Jones manufactures for his own use a radio set. It is not capital. Mr. Smith builds for his own use a boat; and it is not capital. But if Jones hires out his radio set to Smith, and Smith hires out his boat to Jones, both radio set and boat become capital — "acquisitive capital." Is not such a result inconsistent? Does it not involve double counting? Should the mere process of hiring out make "capital" out of goods which would not be capital if used by their owners?

Double counting does result unless we recognize that where consumption goods are hired they represent negative capital to the user and positive capital to the owner, thus canceling out (as capital) when social or group capital is measured. This seems logical. When a man uses his own wealth in consumption he removes it from the category of capital. If he uses or consumes another's wealth, assuming an obligation to pay rent for it, he does more than merely remove it from the category of capital. It becomes negative capital to the consumer, and positive capital to the owner who receives the rent or income (which is negative income or expense to the consumer). This would seem to be the quantitative logic of the situation. But whether there is double counting or not, the process of hiring out goods to others makes a real difference. It represents the capitalistic method of satisfying wants. We should not have "capital" if each family satisfied all of its own wants without exchange.

Behind the questions in the preceding paragraph is an assumption that the essence of capital is provision for the satisfaction of future wants. That assumption is a mistake. All wealth, particularly all durable wealth, represents provision for the satisfaction of future wants; whereas the one indisputable fact about the innumerable references to capital in business and legal proceedings is

that when the word is used some distinction is meant to be drawn between wealth which is and wealth which is not "capital." Capital does not connote merely provision for the satisfaction of future wants; it connotes such provision via the processes of exchange. And the distinction is of vital practical and theoretical importance. Economic life to-day would be wholly different if division of labor and exchange did not dominate it. The American family with an income of $4000 a year can and ordinarily does enjoy the use of an automobile, a radio set, electric lights, a telephone, gas, and a hundred other conveniences which would be impossible and unthinkable in a self-sufficient economy in which each family produced for itself the things which it used. Broadly speaking, "capital" is the tool or indispensable instrument of the economic system which makes life what it is; and economic terms are not to be tested by reference to an economic system which has disappeared or which has never existed. We live in a capitalistic age, and terms are colored by reference to their place and function in the capitalistic system. There is no inconsistency in calling wealth employed in exchange by a different name from similar wealth directly used. Among other differences, one gives rise to a money income while the other does not.

(*c*) The term "capital" covers land, when so used as to satisfy the definition of capital adopted above. Many economists distinguish land from capital; and we have done so in previous editions of this book on the ground that its distinctive features — such as its comparative indestructibility and the fact that land, as "standing room," is a gift of nature — are so fundamental that they should be emphasized by different terms. But business and legal phraseology have never recognized this difference as controlling. On the contrary, land is usually regarded by the business man and legislator as a primary form of capital. The owner of land may refrain or abstain from using it for his own satisfactions, may devote it to production and the indirect or future satisfaction of human wants, and he may consume it or render it practically worthless. Land thus satisfies the definition of capital adopted. The features or qualities which distinguish land from other categories or forms of capital are important; but they can

be recognized as completely when land is treated as a special category of capital as when it is excluded from capital. On the other hand, the persistent refusal of law and business to recognize the distinction which some economists have made between land and capital reflects the truth that land and other forms of capital are in many fundamentals essentially alike. These resemblances are in the aggregate more important than the differences. The necessity of including land in the category of capital is more fully discussed in Chapter XXII.

Income. — The time aspects of wealth are of vital importance; and a fundamental distinction must be drawn between wealth regarded as a *stock* or *fund* of economic goods on hand at a particular time, and wealth regarded as a *flow* of economic goods through a period of time. The general idea of an inflow of wealth or economic services is often expressed in the current phraseology of economists by the word " income." Thus, *the economic goods produced and the personal services rendered for compensation in a given community during a stated year are frequently referred to as the income of that community during the year in question.*

Here again, the failure to treat man as wealth causes difficulty. Some economists at this point emphasize the idea that practically all economic goods are desired for the services which they are capable of rendering, and insist that the mixture of concrete goods and abstract services is illogical. Income, they hold, consists essentially of a flow of services. The satisfactions which these services afford are sometimes referred to as *subjective income* or *psychic income.* Such an income is obviously not susceptible of quantitative measurement. But the terms are not for that reason either meaningless or unimportant. Thus, if the services enjoyed during any period of time should be doubled, we know that the satisfactions derived therefrom would not be doubled. Exact measurement is unnecessary for many important conclusions.

These conflicting meanings of the word " income " are frequently met with in current economic discussions. In this book the word " income " will only be used to denote economic goods and services when the context leaves no room for doubt about the special meaning. But ordinarily we use the word income to mean

money income. More precisely defined, *income means receipts acquired through exchange, less the expenses of acquiring them, measuring both receipts and expenses in money.* This definition is merely a paraphrase of the definition repeatedly employed by the Supreme Court of the United States in the decision of income tax cases: "Income may be defined as the gain derived from capital, from labor, or from both combined, provided it be understood to include profit gained through sale or conversion of capital assets." [9]

In connection with the concept and definition of income, the following considerations should be held in mind:

(*a*) Income means receipts which, through the process of exchange, are measured in money. It is a pecuniary term and means cash or the equivalent of cash. If Mrs. Jones teaches her own children, there is no trustworthy money measure of this service; and it does not constitute income either to the Jones family or to the community in which the Jones family resides. But if Mrs. Jones teaches in a school, both her income and the community income are increased by the compensation which she receives. The household services of wives and mothers working at home do not produce income, but if they go out to work for wages and with such wages hire housekeepers and servants, both the wages which they receive and the wages they pay constitute income.

The word "income," like the word "wealth," has no necessary connotation of welfare. A skilled bootlegger may earn a large income. Because income takes no account of personal services which people perform for themselves and little account of the services which they perform for others without compensation in cash or the equivalent of cash, estimates of so-called "social income" are precarious and doubtful magnitudes. They would be swelled enormously if, for instance, money estimates were placed on the domestic work performed without pay by wives and mothers. On these and other non-economic services, of priceless importance, no safe money value can be placed. Ordinarily the social income of two states or cities, for instance, can be compared intelligently only on the assumption that in each approximately the same

[9] Eisner *v.* Macomber, 252 U. S., 189.

proportion or the total goods and services pass through and are measured by the processes of exchange.

It is idle to attack the concept of income as inconsistent because it does not fulfill the function of measuring real services or welfare, for which it is not intended. It is probably true etymologically and it is certainly true of prevailing current usage that income is a pecuniary term which implies measurement through exchange. *Its reality and consistency are those of money measurability.* When we can measure welfare and service as readily as we can measure wealth and income, the latter concepts will doubtless yield their dominant importance to higher and better concepts.

(*b*) The word "income" connotes a residue — *net receipts*. From gross receipts certain fundamental costs incurred in obtaining those receipts must be deducted before *gross income* appears. From gross income, overhead costs, general expenses, general losses, and certain other deductions must be made to compute *net income*. While the exact order or place for deducting certain of the costs and expenses varies from business to business and there is no uniformity in practice, with respect to some of the more doubtful items, it is generally agreed in this country that gross receipts is a more inclusive term than gross income, and gross income more inclusive than net income. It is plain, for instance — and in some applications the fact is highly important — that when a good is sold, its cost of production or acquisition must be subtracted before gross income appears. In general, only money costs and expenses are recognized in computing income. From the standpoint of welfare and service, this is inconsistent. The explanation is "measurability." The terms "income" and "expense" must be used in practical affairs where measurability is a more important consideration than psychological or ethical consistency. The hangman is not allowed, in computing his income for purposes of taxation, to make any deduction for the "psychic cost and expense" incident to his unpleasant vocation. These costs are real, but as they are not measured or measurable through exchange, they do not reduce income.

(*c*) Certain non-monetary costs are so important that they have come to be recognized indirectly. Thus, the federal income tax

allows a special credit or reduction on so-called "earned income," which is defined in the income tax law as "wages, salaries, professional fees, and other amounts received as compensation for personal services actually rendered." It is obvious that much business income is derived in part from property and in part from personal service, and largely because of this difficulty of distinguishing precisely between earned and unearned income, the discount or credit for earned income is usually limited in income tax laws — in this country to earned income not in excess of $30,000 annually.

The terms "earned" and "unearned" are misleading in many of their implications; and it has been suggested that they be replaced by the terms "service income" and "property income." Although the two classes of income cannot in practice be separated or measured with precision, the difference between them is real and important. It arises largely from our inability, in estimating service income, to take full account of the expense of rearing and educating the human being for his work in the world. Here again, failure to treat human beings as capital wealth, causes practical difficulties. The exhaustion of "human capital" is not treated as an expense in computing net income, whereas the exhaustion of ordinary capital is so treated, particularly in this country.

Pecuniary Economics. — In beginning the study of economics, the student is likely to be impressed by the dominating influence that money and prices exert upon economic life and the concepts of economic science.

But the economist is not concerned wholly with pecuniary measurements. He constantly tries to go behind the money measure and to think in terms of material welfare. He is baffled by the difficulties of the problem and his present judgments about material welfare must be rough and inexact. And naturally, economics has developed most in that field where the distinction between wealth and welfare is least important; in the treatment of money and banking, trade, prices, and allied subjects in the field of exchange. But economics is not a mere study of "catallactics," that is to say, the science of exchange; and in recent years real progress has been made in overcoming some of the limitations of the money measure. When that problem is successfully solved, both economic science

and economic life in general will be materially altered and, we have no doubt, for the better.

Meanwhile, we must not lose sight of the present fact that both economic life and economic science have in large degree been molded by considerations relating to the practicability of measurement. We pay so much attention to " pecuniary wealth " because we can deal with it quantitatively. If we could obtain some consensus of opinion about moral and esthetic values, real welfare and service, which even approximated in precision and objectivity the measurements of exchange value given on the market place, human life would soon cease to be so commercial. Practicability of measurement is a major consideration. Wealth, notwithstanding all its inconsistencies and limitations, has assumed a position of dominating importance largely because it represents that subtle form of utility or value which, at any given time, can be measured through the medium of exchange.

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CHAPTER VII

PRODUCTION

Production Defined. — Man creates no new matter. Neither the farmer nor the merchant adds one atom to the existing material of the earth. Yet they are both properly called producers because they increase economic utility, — the capacity of things to satisfy human wants. Production includes both the rendering of service and the fabrication or production of goods. The production of goods always involves one or more of the three following operations: (1) changing the form of things, or combining or rearranging them, (2) changing their place, and (3) keeping them until such times as they are wanted. In other words, production adds form or composition, utility, place utility and time utility to the materials of nature.

The word "production," it is necessary to point out, is commonly used even by economists and statisticians in a narrower sense which excludes most of the operations followed in creating time and place utilities. In important tax cases the word production has been held to exclude transport. As defined in the federal income tax: "the word produced includes, created, fabricated, manufactured, extracted, processed, cured, or aged." Cost accountants frequently exclude all expenses of purchasing, selling, and of financial or general administration from "expenses of production." In this book we employ the term production in its wider sense, using the word "manufacture" or qualifying the term production in some appropriate way, *e.g.* "physical production," when a narrower or different meaning is intended.

The narrower use of the term production often leads to unjustifiable distinctions between different kinds of economic activity. It has seemed to some that the farmer is more truly a producer than the manufacturer; and the manufacturer than the merchant; but

such is not the case. All of these industrial classes help at some stage in the process of getting the materials of nature ready for consumption. The miner gets iron ore from the ground, the manufacturer transforms it into stoves, the railway company transports the stoves and the merchant acquires a stock of them and keeps them until they are wanted. One stage is as essential as another if wants for stoves are to be satisfied. It may be that the utilities produced by the merchant could be produced with a smaller expenditure of economic force, that by a better organization of the market savings could be effected; but this is no justification whatever for the popular impression that the merchant is not a productive worker. Things are not fully "produced" until they are in the form in which they are wanted, at the place at which they are wanted, at the time when they are wanted.

Physical Product and Value Product. — In a literal sense neither utility nor value is "produced." The things produced are goods and services which possess utility and value *because they satisfy human wants* that would otherwise be unsatisfied. In general, any increase in the quantity of want-satisfying goods and services is productive. Of course the output of some commodity might conceivably be pushed so far that it would become overplentiful, — not a good but a nuisance, like rabbits in Australia. But the general and well-nigh universal rule is that a larger supply of goods has a larger utility — more want-satisfying power — than a smaller supply. To increase the *physical quantity* of a product, that is, the quantity of the product measured in terms of tons, yards, bushels, etc., is in general to increase the utility of the aggregate product.

Services that increase utility by leading directly or indirectly to the satisfaction of human wants are productive. But since we are not willing to pay for things that we do not want, it follows that every service for which we are willing to pay must be classed as productive. All money-making pursuits are, from this point of view, productive. Except through inheritance or gift or gambling or fraud or theft one cannot gain an income unless one gives a *quid pro quo* by rendering productive services or by permitting the use of some productive agent which one owns or controls. But it does

not follow that money-making is a measure or gauge of the *amount* of productive service rendered or that production and acquisition always go hand in hand. For *scarcity*, as well as utility, is a factor in determining the value of things.

Men can sometimes increase the selling value of a product by curtailing its supply, although, of course, this decreases its aggregate utility. In the case of a monopoly, where the power to control the supply of a product is lodged in the hands of a single producer or group of producers, this often becomes a matter of much importance. The case of the Dutch East India Company, which is said to have destroyed half of its spice crop, because the remaining half would sell for more than the whole would have sold for, has been cited by many writers. In some fishing centers part of an unusually large catch is destroyed or sold as fertilizer in order that the market price may not be unduly lowered. Most commonly, of course, limitation of supply is effected by merely producing less than might have been produced and sold at a price high enough to cover expenses. In competitive enterprises, however, no one producer can control the supply of the product, so that in general the only way in which a producer can increase the selling value of his own output is by increasing its physical quantity and, consequently, its utility. But it should be clear that we may get very different results if we measure the results of productive effort in money values from what we should get if we used utility as our measure.

From the point of view of social welfare, the production of total or aggregate utility is what we are interested in. This is a very different thing from the blind multiplication of material goods. The farmer, it is often mistakenly said, serves himself poorly but society well when he produces at a loss wheat that sells for only 90 cents a bushel: "what is the farmer's loss is society's gain." This view is, on the whole, erroneous. It ignores the social damage done by production at a loss; it ignores the suffering and distress of the individual farmer; it ignores the vital truth that balanced production is socially more important than lavish production in particular lines of industry. In practical life we are misled again and again by mistaken emphasis on physical productivity. We reclaim by costly drainage and irrigation large amounts of farm land at a time

when it is plain that there is an over-supply of farm land. We decry the middleman and coddle the " producer " at a time when improvement in the marketing of goods is obviously far more important than the fabrication of more products. We refuse, at times stupidly, to obey or notice the economic storm signal of loss or inadequate profits when from the broad point of view of social welfare, it would be wiser to obey the signal to curtail production.

It is true that high money values can be created by monopoly; it is true that some human wants are trivial or pernicious and the corresponding " utilities " false in a moral or esthetic sense. But it is also true that many tangible goods are trivial or harmful; that overproduction represents a social waste; that guidance of production by value or price tends to avoid overproduction and preserve that balance which is necessary to successful production. Maximum aggregate utility and not maximum quantity of goods would be the goal of production even in a socialistic state. Consumers in general know what they want better than economists know what consumers want; and they reveal their wants by offering to pay high profits to the producer who will supply them with those goods or services which they want most. The producer who follows this beacon of high profits, benefits not only himself but in general his community. The exceptions only prove or test the general rule. By and large, value product is a truer measure of social welfare than physical product, not only under a " money or pecuniary economy " but under any other economy which employs coöperation and division of labor. The law of diminishing utility is a reality, not a theoretical plaything, and is independent of money and of the system of private production.

Is Advertising Productive? — If the preceding analysis is sound, it follows that one may produce by arousing new wants or intensifying old wants. Some writers argue, largely from the standpoint of terminology, that advertising cannot be productive because it does not in itself cause an increase in want-satisfying goods or services. But this position ignores the true functions and effects of advertising. Truthful advertising is productive not only because it increases the desire of consumers for particular goods and services, but also because, in a real sense, it creates or helps create utilities. Not

all advertising is productive. A considerable amount of effort is devoted to inducing people to buy goods for which they have no real use, or which they cannot use in the way they are led to believe, by advertisements which directly or indirectly misrepresent the quality and utility of the goods in question. Such advertising is the reverse of productive. But reputable advertising which brings to the attention of the public new goods and services and awakens a desire for them, or which induces a larger number of people to demand goods and services already in the market, is productive.

What of "competitive advertising" — advertising designed to induce consumers to buy one brand of an article rather than another, but which does not increase the total demand for all brands of that article? Competitive advertising is merely part of economic competition in general and must stand or fall with it. Economic competition, despite its obvious wastes, is felt by most people to be justified because it spurs men to put forth every effort they are capable of and makes for efficiency through that process loosely referred to as "the survival of the fittest." Among the various forms of economic competition, printed advertising holds a high relative rank. "Competition is carried on through advertising more effectively and more economically than would be possible through competition of salesmen alone. Furthermore, advertising has undoubtedly raised the whole plane of competition, in that salesmen sometimes make claims and resort to subterfuges that would never be tolerated in printed advertising." [1]

Advertising awakens some harmful and many trivial wants; it is costly and frequently disingenuous or misleading; but the ethics of the advertising business are improving and the function which advertising fulfills in the commercial world of today is indispensable. The following claims in behalf of advertising are made by the economist from whom the above quotation is taken. Although this writer is now engaged in the business of advertising, and he does not set forth the wastes of advertising, his views are on the whole

[1] L. D. H. Weld, *When Advertising Raises Prices* (The H. K. McCann Advertising Company, New York, n.d.). (An article which appeared in *Nation's Business*, April, 1929, under the title, "Is Modern Advertising Justified?")

sound. His main conclusion is that advertising must stand or fall with the general competitive exchange economy of which it is now so important a part:

1. Advertising is an essential complement of mass production with its modern accompaniments of high wages and low cost of manufacturing.

2. Advertising takes the place of salesmen, and facilitates sales by establishing contacts between sellers and buyers. It raises the plane of competition for the reasons quoted above.

3. Advertising often sends up prices but renders service commensurate with this increase in price. Briefly, it operates to guarantee quality, to make purchase easier, to educate the buying public, and to reward the manufacturer for the risks he assumes. "Finally — and of fundamental importance — is the fact that advertising creates new wants, and, by furnishing the means to satisfy them adds to the general happiness of mankind."

Factors or Agents of Production. — The actual agents and forces which coöperate in production are almost infinite in variety as well as in number. But, as pointed out in the preceding chapter, we group them for convenience under four general heads or types: labor, capital, land, and enterprise. This classification is pragmatic and not severely logical. Labor and capital are logically distinct, but there is no clear line between enterprise and the other factors; and as will be shown in Chapter XXII, experience seems to indicate that the resemblances between capital and land are more important than the differences. The term "factors of production" should be distinguished from the term "production factors" coming into increasing use by engineers and statisticians. "Production factors" mean measurable aspects or indices of production. Eleven of these production factors are distinguished in Table IV of this chapter, on p. 130.

Labor, as a factor of production, includes human activities of every sort, intellectual as well as physical, which have economic significance. Under this head fall not only the factory hand, but the bank cashier and the professional baseball player. We might better, perhaps, substitute man for labor as the second factor. Labor is supplied by human beings. It is inseparable from the

persons of those who supply it. Moral and intellectual qualities increase its productiveness. Temperance, trustworthiness, skill, alertness, quick perception, a comprehensive mental grasp, — all these and other qualities belonging to man are of paramount importance. Man's mere physical strength is in itself a poor thing, being surpassed by that of the lower animals, but man is far more productive, and, even as a slave, was sold for more.

Capital. — Man can get but little directly from nature with his unaided hands. The instruments which assist him, as we have seen in the preceding chapter, are called "production goods." Production goods used to acquire a money income, together with consumption goods devoted by their owners to the same purpose, are called "capital goods." The nation's stock of capital goods consists not only of tools, machinery, and factory buildings, but of stores and equipment devoted to selling as distinguished from manufacture; it includes ships and systems of transport, research apparatus used in business, valuable formulae and patents, the books of the lawyer, the securities of the investment trust, and in fact all articles of wealth devoted to the acquisition of a money income. When we use the term "capital goods" we usually have in mind the physical or material aspects of such wealth, but there is no common measure of capital goods other than money value and, when this common attribute is being considered, the single word "capital" is usually employed.

Land is used by economists with different and inherently conflicting meanings. In one famous definition it was confined to the "original and indestructible properties of the soil," such as those connoted by the terms "site value" and the property of affording "standing room." Such writers wish to emphasize the indestructible and unproducible properties of natural agents. Other writers, on the contrary, wish to emphasize, the *gifts* of nature, the fact that there is wealth in the discovery or use of which man's labor and sacrifice have played no important part; and such writers use the word land to include forests, mineral products, soil fertility, and other gifts of nature which are easily consumed or destroyed. It is these conflicting opinions, in part, which have led us to the conclusion that the resemblances between land and other forms of

capital are more important than their differences. The concept and definition of land are discussed at some length in Chapter XXII. Meanwhile, because of its importance, we treat land as a factor of production worthy of separate treatment, just as we later single out another form of wealth — money — for separate recognition and treatment because of its importance and peculiarities. The word *land* in this chapter is used as broadly synonymous with natural resources, including mineral deposits, standing timber, irremovable fixtures or improvements, but *excluding waste and other free land* unless the contrary is indicated by the context. The reasons for this exclusion will be seen later.

Organization of the Productive Factors. — Before production can take place, the factors of land, labor, and capital must be brought together. Many farmers and small-scale manufacturers furnish all three. In large-scale establishments, however, the majority of the laborers usually have no share in the ownership of land and of other capital goods, although stock ownership by employees is now spreading rapidly in the United States. In American agriculture ownership of land and other capital goods by the same person is common; but in England the land-owner and farmer are more often different persons. On the other hand, factories are frequently built upon leased ground, and much land is farmed in America by tenants who furnish their own equipment of capital goods. This separate ownership of the different groups of productive factors gives added significance to the important problem of distribution; *i.e.* how the shares of the national income received by different groups are determined.

The Entrepreneur or Enterpriser. — The one who manages a business for himself was formerly called an undertaker, or adventurer; but the first word has been appropriated by one limited class of business men, and the latter has acquired a new meaning, carrying with it implications of rashness and even dishonesty. We have consequently been obliged to resort to the French language for a word to designate *the person or group of persons who assume the task and responsibility of combining the factors of production into a business organization and keeping this organization in operation.* They are called *entrepreneurs*, although many American economists now

speak of them as *enterprisers*. The entrepreneur has been well called a captain of industry, for he commands the industrial forces, and upon him more than any one else rests the responsibility of success or failure. A business which has achieved magnificent success often becomes bankrupt when, owing to death or other causes, an unfortunate change in the entrepreneur is made. With the development of colossal corporations in recent years, however, the traditional type of captain of industry has become, perhaps, rather less prominent. "It is the man who can lead rather than domineer who is now chiefly desired in executive positions. The large organization needs an able head, but must have much more brains at the top than one head will hold: the organization pyramid is being rounded at the peak." [2]

The function of the entrepreneur is composite. In one sense he is a glorified laborer, but he may hire specialists to do even the work of organization for him. Again, he usually has considerable capital of his own at stake; but he may operate principally on borrowed capital. As stated in a further discussion of this subject in the chapter on Profits, his most distinctive task is that of making the ultimate decisions and assuming the responsibility that goes with such decisions. On the other hand the laborer and capitalist often act as entrepreneurs. The former makes a typical entrepreneurial decision when he decides whether to enter this occupation or that; the latter when he decides to make a loan involving unusual risk. Each really has a kind of business to manage: one the business of selling labor, the other that of making loans.

The Law of Diminishing Returns. — Perhaps tne most fundamental truths in connection with production are those arising from the universal economic phenomenon generally described as "the law of diminishing returns."

Assume that a farmer has bought or inherited a farm. He finds, of course, that the product will vary with the number of laborers employed. He increases the number gradually. Up to a certain point each laborer will add to the product more than the preceding laborer added. In other words, *additional* or *marginal product* is

[2] H. S. Dennison in *Recent Economic Changes*, Report of the Committee of the President's Conference on Unemployment (McGraw-Hill Book Co., 1929), Vol. II, p. 502.

increasing. But at some point the marginal product will inevitably fall off; that is to say, the last laborer will add less product than his predecessor. At another stage, probably a later stage, the *average product per laborer* will begin to fall off. The fact that the shrinkage in marginal product may come at a different point than the shrinkage in average product is a simple numerical fact which the reader can easily verify by working out an illustrative case. It is important also to note that the average and marginal products, respectively, exercise different influences. Obviously the landowner's profit will be particularly dependent upon the total or average product, whereas the laborer's wage will be vitally influenced by the marginal product. Assuming free competition for the services of laborers there will be an inevitable tendency to bid for laborers until the wage for labor roughly approximates the value of the estimated marginal product. Whether the wage can reach this goal is an important question which it is not necessary to decide here. But the influence of marginal product upon wages is plain.

The stage of *increasing* average product is known as the stage of *increasing returns;* the stage of diminishing average product is known as the stage of *diminishing returns*. Finally a last stage may conceivably be reached, that of total diminishing returns. Here the laborers get in one another's way: the *total* product falls off. It is important to note that unless otherwise stated the product is always measured here in physical terms, *i.e.* bushels of wheat, gallons of milk and the like.

Some of the conclusions from the law of diminishing returns "are interesting if true." It is plain that agricultural land does not command a rent before the stage of diminishing returns has been reached. Up to this point it would actually pay to use less land per laborer, and to cultivate the soil more intensively. When we pass the point of maximum average returns and get into the stage of diminishing average returns, wages tend to fall both absolutely and in proportion to the total product. The laborer receives fewer bushels of wheat and fewer gallons of milk because he produces less and what he receives constitutes a smaller share of the total product of wheat and milk.

Starting with this bare analysis and applying the Ricardian

concept of rent some writers urge that every effort should be made to keep population at such a point that there will be no land rent and no land value. Diminishing returns, they hold, spells land famine. It smites the landless "with both edges of its sword," while the landed classes reap where they have never sown. It is to the advantage of landowners to stimulate population, to foster immigration and in general push the community as far as possible into the stage of diminishing returns, all at the expense of the welfare of the majority.

The only practical truth in the above argument resides in the obvious fact that there can be too many people in a particular country, and in the past overpopulation has often been a grim reality. But the argument is not applicable to the United States at the present time, and is essentially misleading for any country when employed, as it frequently is, to support the conclusion that land rent is unjustifiable and a sign of productive inefficiency. The theory of economic rent is discussed in Chapter XXII. Here it is sufficient to say that the argument in question falls down as soon as the landlord has to pay anything for his land. If, as history plainly suggests, some pressure of population on land is a necessary spur to progress, then some land rent is both inevitable and justified as the necessary price of progress. But given such rent, production must be pushed to the point of diminishing returns as a mere matter of maximum social production. In the words of the economist who must be given the chief credit for showing the significance of the law of diminishing returns: "We conclude, then, that, *in actual life, we should expect to find any divisible factor being worked in the condition of diminishing returns*." [3]

The phenomena of increasing and diminishing returns apply not only to land but to practically all other factors or agencies of production. It is highly important that these factors of production be kept in proper balance. This leads to the *so-called law of the proportion of factors*. The following statement of this law is from Professor J. M. Clark's valuable treatise on *The Economics of Overhead Costs* (pp. 86–87). The terms "overhead," "constant costs,"

[3] F. M. Taylor, *Principles of Economics* (Ronald Press Co., New York, 1925, 9th ed.), p. 140.

and "variable costs" refer to the well-known facts that certain expenses of the average business, such as the salary of the chief executive, and interest on bonds, are approximately fixed or constant. They constitute "overhead costs" which increase slowly or not at all as output increases. Other costs, *e.g.* of raw material and labor are likely to increase as rapidly or more rapidly than the output. This subject is one of wide importance and will be frequently discussed. At this point it is sufficient to recognize that costs vary differently as output changes and that some costs are, within limits, approximately constant.

When the law of proportion of factors is stated, one factor is usually taken to be constant and another variable: for example, a fixed area of land and a variable amount of labor. This means that for purposes of short-run problems, at any rate, land represents a constant cost and labor a variable one. The land is, paradoxically "overhead." As labor per acre increases, the crop per acre naturally passes through five stages. It may increase (1) faster than labor, (2) just as fast, (3) slower, (4) not at all, or (5) it may actually decrease. The first case represents increasing returns to labor; the second represents constant returns, the third diminishing returns, the fourth zero returns, and the fifth less than zero returns.

But note what the "law of proportion of factors" says of these stages. The fifth stage is manifestly inefficient, and the first, its converse, is inefficient for the same reason. In stage one there is not enough labor to develop the land and what labor there is would raise more if it let part of the land lie idle. Stage two, or constant return, is also inefficient, if land costs anything, because, while the crop per laborer is at its maximum, it would be just as great with a little less land, and so whatever that little land costs is a clear loss, yielding no addition to product. Or with more labor the cost would be less per bushel, since the "variable cost" of labor would be the same per bushel and the "constant cost" of land would be divided among more bushels.

For the same reason stage four (the converse of two) is inefficient if labor costs anything. Therefore maximum financial efficiency is reached after the return per laborer has begun to diminish, but before it reaches zero. The exact point will be the point at which the "variable cost" (differential labor cost) per bushel for the last added bushel of crop is equal to the average cost of the whole crop, including the rent of land. Thus the "law of diminishing return" holds good, not as a purely technical principle, but as a principle of human choice. The most economical combination is one in which all the factors are in a stage of diminishing return.[4]

[4] J. M. Clark, *The Economics of Overhead Costs* (University of Chicago Press, Chicago, 1923), pp. 86–87.

Reduction of Overhead Costs. — The preceding discussion brings to light one of the most powerful forces in the field of production, a force which is exerting unusual power in the United States at the present time — the effort to reduce overhead costs. Manufacturing units or plants have a size of maximum efficiency (which tends to increase in most lines of production). It frequently, if not usually, pays to start business with a manufacturing capacity in excess of selling capacity. A considerable margin of excess capacity is thus typical of business in normal times. From this source arises a constant pressure to increase output in order to bring down manufacturing costs per unit of output. We shall not now enlarge upon this familiar phenomenon. The point we emphasize is that unused capacity exists in a hundred unsuspected places in the field of production, that there are ceaseless opportunities of economy in utilizing this unused capacity more fully, and that many of the less understood phenomena of business life are traceable to this source. The general principle here at work is thus stated by Professor J. M. Clark, to whom the economic world is chiefly indebted for an appreciation of its underlying importance.

> If there is any general principle underlying all these laws, it is that economies result from developing the unused capacities of productive factors, and that the exploitation of the capacities of any factor encounters elastic limits and increasing resistance. In particular, one may lay down the proposition that whenever a productive factor which costs something has any unused capacity which can be developed without encountering unduly increasing resistance, there is an opportunity for financial economy in utilizing that capacity. Resistance becomes "undue" when the differential cost of added output becomes greater than average cost (including a pro rata share of the cost of the constant factor.)[5]

Division of Labor. — The most distinctive features of production under an exchange economy arise from the division of labor. This term suggests a number of related ideas which must be distinguished. (1) We may mention first a separation of *occupations*, each one being independent of the other, as is shown, for example, in the splitting up of medical work into various specialties. With the progress of industry entirely new occupations are continually

[5] J. M. Clark, *The Economics of Overhead Costs*, p. 72.

appearing. (2) We also find production divided into *stages*, each one giving rise to a commercial product, but not to a finished consumption good. This becomes clear if we think of the history of almost any article of daily use: the making of bread presupposes the flour and wheat stages. (3) We have in the third place what is most commonly referred to by the term "division of labor," where *the productive process is divided into minute parts*, and the task given to each laborer has to do only with one of these parts. The organization of a cotton mill affords an excellent illustration:

In cotton mills, as in all other textile mills, there are men of skill and experience who superintend or oversee the work in various buildings and in the rooms and yards. These supervisory employees have assistants, and the division of superintendence is carried down to the sections of rooms, so that all sections have their supervisors, known variously as section bosses, section hands, section girls, and third hands. The following list of occupations will indicate the extent to which division of labor is carried in this industry: alley boys (or girls); bundle boys; filling and roving carriers; belt makers, blacksmiths, carpenters, machinists, masons, painters, steam fitters, and other mechanics, including sometimes electricians and batterymen; roll coverers; helpers; laborers (unskilled); bale openers; picker hands or cotton shakers; lap tenders; card brushers; first and second breaker hands; finisher pickers; card boys; card hands; waste hands; wastemen; card clothiers; card strippers; card grinders; combers; laphead hands; doublers; drawing frame tenders; railway-head tenders; slubbers; speeders, fly-frame tenders; jack tenders; rovers; spinners; bobbin boys; yarn pourers; piecer and doffer; back boy; band boys; doublers and twisters; winders; yarn untanglers; spool boys, white spoolers; warpers; slasher tenders; size makers; reel hands; dye-house hands (with further subdivisions); beamers and splitters; beam carriers; warp drawers; harness menders; harness brushers; handers-in; twisters-in; loom fixers; pattern makers; putters-up of samples; cloth weavers; weavers of designs; yarn carriers; smash piecers; spare weavers; inspectors; trimmers. The finishing of the cloth is a separate industry.[6]

This form of the division of labor may also exist without the use of complex machinery, as in the slaughtering and meat-packing industry.

It would be difficult to find another industry where division of labor has been so ingeniously and microscopically worked out. The animal has been surveyed and laid off like a map; and the men have been classified in over thirty special-

[6] From the Glossary of Occupations in the volume on *Employees and Wages*, Twelfth Census, Special Reports (Government Printing Office, Washington, D. C., 1903).

ties and twenty rates of pay from 16 cents to 50 cents an hour. The 50-cent man is restricted to using the knife on the most delicate parts of the hide (floorman) or to using the ax in splitting the backbone (splitter); and wherever a less skilled man can be slipped in at 18 cents, 18½ cents, 20 cents, 21 cents, 22½ cents, 24 cents, 25 cents, and so on, a place is made for him and an occupation mapped out. In working on the hide alone there are nine positions at eight different rates of pay. A 20-cent man pulls off the tail, a 22½ cent man pounds off another part where the hide separates readily, and the knife of the 40-cent man cuts a different texture and has a different "feel" from that of the 50-cent man. Skill has become specialized to fit the anatomy.[7]

Advantages of Division of Labor. — Some of the advantages or economies of a division of labor are as follows: (1) A gain of time. A change of operations costs time. Less time is also consumed in learning one's business. (2) Greater skill is acquired, because each person confines himself to one operation and becomes expert in its practice. (3) Labor is used more advantageously. Some parts of an industrial process can be performed by a weak person, others require unusual physical strength; some require a high degree of intelligence, some can be performed by a man of very ordinary intellectual powers. Special capacities are best utilized, and work is found for all, young and old, weak and strong, stupid and intelligent. (4) Capital is better utilized. Each workman uses one set of tools, or one part of a set, and keeps that employed all the time. When each workman does many things, he has many tools, and some are always idle. (5) Finally, because the division of labor simplifies operations, it makes it easier to substitute machinery for direct human labor. It might be impracticable to design a machine which would directly convert leather into finished shoes. But it has been found practicable to devise machines which will successfully accomplish *each of the successive steps* in shoemaking. Such a subdivision and simplification of manufacturing processes is only possible when they are conducted on a large scale. "It is the largeness of markets, the increased demand for great numbers of things of the same kind, and in some cases of things made with great accuracy, that leads to subdivision of labor; the chief effect of the improvement

[7] Commons, *Trade Unionism and Labor Problems* (Ginn and Co, Boston, 1905), p. 224, in a chapter appearing originally in the *Quarterly Journal of Economics*, Vol. XIX, p. 1.

of machinery is to cheapen and make more accurate the work which would anyhow have been subdivided." [8]

Effects upon the Worker. — The effect of the introduction of machinery upon wages will be discussed in a later chapter. But what is the effect upon the life of the worker? When a task is rendered simple does it lose its attractiveness and its educational value? A man may enjoy his work when he makes a whole watch, bearing the impress of his own care and skill. But who can like the mere routine of feeding material into some machine? A workingman becomes a mere cog in a great mechanism, driven at a certain speed, day after day, with no further interest in the result of his labor than that it is the source of his daily wage. But much may be said on the other side. To a large extent the heaviest labor is done with mechanical appliances, and those tasks which are most simple and regular and monotonous are precisely the ones which are likely to be taken over by machinery, leaving to human beings the work which requires intelligence and skill.

Looked at broadly, is the average work of a laborer in a machine industry less dignified, less agreeable, less humanizing than it was before the industry reached the machine stage? From the nature of the question, it is dangerous to dogmatize, because neither the affirmative nor the negative is capable of being demonstrated. The negative view seems to rest mainly upon the assumption that it is more dignified to be occupied with a great many purely mechanical operations than with a very few. The old-fashioned shoemaker, for example, was largely occupied with purely mechanical operations, most of them of a very elementary nature, such as a machine can do quite as well as a man. Each of these operations required great concentration of attention, leaving him very little opportunity for other forms of mental activity. He was the slave of each particular task as truly as a modern machine worker can be said to be the slave of his single task. But the old-fashioned shoemaker had to turn from one kind of work to another. This increased the difficulty, and, on the whole, required of him a greater amount of concentration than is now required of the operator of a machine. The latter, who has but one routine task to learn, learns it easily, and can carry it out without very intense concentration of mind. His mind, therefore, would seem to be freer than that of the old hand worker, though there was more variety to the work of the latter. Whether this greater variety is to his advantage or disadvantage would be difficult to determine offhand. It looks as though the operator of a machine in a shoe factory, being relieved of the

[8] Marshall, *Principles of Economics* (The Macmillan Co. New York. 1920, 8th ed.), p. 255.

necessity of acquiring several forms of specialized manual dexterity, would be in a better position for free mental activity than the old-fashioned shoemaker.[9]

It seems that those who declaim against factory life do not always distinguish those things which are temporary from things which are inherent in the system. Long hours, unhealthful working conditions, and frequent industrial accidents need not be inevitable accompaniments of the use of machinery. The efficiency of machine methods is what makes leisure possible for the workingmen. When they learn to use that leisure to the best advantage, their condition will be far in advance of what it could be under more primitive methods of production.

The charge is also brought against machine production that it is antagonistic to the development of art. Machine production means uniform production. It is possible that a growth in the desire for what is beautiful rather than cheap will limit the use of machinery in some directions (*e.g.* we may insist upon more hand work in the making of furniture), but an extensive use of machinery as a servant of art will always be necessary, and that in two ways: (1) For an appreciation of art there must be leisure, or at least leisurely work, and without machine methods this is not possible for the masses. (2) There is much work that is preliminary to the work of the artist, and that can be done by machinery. Will a beautiful building be less beautiful because much of the heavy work of dressing the stone is done by machinery? (3) The artist may use machinery as a tool, as a means to an end. Rugs, draperies, wall papers, and the like need not be ugly merely because they are machine products. Industry has given art a new medium of expression. Art is just beginning to learn how to use that new medium.

Territorial Division of Labor. — The concentration of a certain industry in a particular region is often called the territorial division of labor, or the localization of industry. Illustrations are seen in the prominence, or former prominence, of the boot and shoe industry in Massachusetts; the collar and cuff manufacture in Troy, New York; oyster canning in Baltimore; the manufacture of

[9] T. N. Carver, "Machinery and the Laborers," *Quarterly Journal of Economics*, Vol. XXII (1907), p. 230.

gloves in Gloversville and Johnstown, New York; of automobiles in Detroit, Michigan; of coke in the Connellsville district, Pennsylvania; of brassware in Waterbury, Connecticut; of carpets in Philadelphia; of jewelry in New York City, Providence, Rhode Island, and Attleboro and North Attleboro, Massachusetts; slaughtering and meat packing in Chicago; the manufacture of plated and britannia ware in Meriden, Connecticut; of rubber goods in Akron, Ohio; and of silk in Paterson, New Jersey. Among the factors which help to determine where industries shall be localized are the following: (1) proximity to raw material, (2) accessibility of markets, (3) presence of water power or of cheap fuel, (4) favorable climate, (5) availability of labor, (6) availability of capital, and (7) the momentum of an early start, and (8) individual enterprise. The vision and energy of some one exceptional man have often led to the successful establishing and maintaining of an industry in a locality which, for the first few years at least, had none of the other advantages.

The factors which determine the geographical distribution of industries within a nation are substantially those which account for their *international* distribution. But artificial factors like government subsidies or favoring tariffs must also be taken into account. So far as the international distribution of manufacturing industry in general is concerned, it seems that during the last hundred years *fuel* has been the dominant factor. The three countries which in respect of manufacturing industries and trade have outdistanced the rest of the world are Great Britain, Germany, and the United States. These three countries are especially fortunate in their supplies of coal. No small part of the unprecedented industrial advances of the past fifty years must be attributed to the unleashing and the harnessing for productive ends of the stores of physical energy which for centuries had been locked in the coal and petroleum deposits of the world.

Since the outbreak of the World War, however, *industrial decentralization* has become more important, both in the United States and the world at large, than the opposing movement of industrial concentration. Internationally, this result is partly due to the war, the breaking up of old trade relations, the stimulus to national

production furnished by interrupted commerce, the diffusion of technical knowledge due to the seizure of patents, and related causal forces created by the war. In the United States, however, the movement is due principally to economic factors. These factors would probably have wrought similar results in the international distribution of industry, even if the war had not intervened to hasten this development.

In the United States the less developed sections such as the Pacific and East North Central States have gained at the expense of the older and more developed sections, particularly the New England States. There has been a conspicuous movement of industry to the smaller towns. The great corporations concentrate their manufacturing operations in one plant less than they did formerly. They have adopted the policy of branch plant operation, and have located their plants in increasing degree in the smaller towns where there is less freight congestion and where taxes, real estate prices and wages are lower. The old historical centers of localized industry are rapidly losing their relative importance, although in most cases production when measured absolutely continues to expand in the old centers.

First, there was the development of backward areas and the decline of the highly developed areas; second, the development of rural sections and the decline of the city; and third, the breakdown of local concentration in the historical centers of specific industries. And it is probable that all these mean more efficient production. Certainly, they will cause considerable saving in freight hauling, less delay in shipping. Furthermore, they tend to destroy the dependence of areas upon single types of activity for livelihood. Diversification of industry means less violent depressions and less excited prosperities, since the various industries do not move in exact accord, and their average will tend to be more stable than single industries. The advantages of local concentration have long been sung, but the day of diversification has come. It should be a happier one for many communities.[10]

The Increase in Productivity. — The increasing division of labor and similar developments have wrought some dramatic industrial changes in the past few years. We should expect to find the increased output which statistics reveal in most lines of industry.

[10] W. L. Thorp, "The Changing Structure of Industry," *Recent Economic Changes*, Vol. I, p. 215.

But the figures show unexpected recessions as well as sudden jumps; a particularly striking increase in output since the depression of 1921; a reduction of the number of workers in agriculture and manufacturing in recent years; a drop in the hours of labor in manufactures contrasted with a slight increase in the weekly wage rate; and a great increase "in productivity per wage earner" in recent years. Comprehensive figures covering eleven production factors are shown in Table IV quoted with some omissions from a compilation by L. P. Alford.[11]

In reading this table the following explanations and interpretations should be held in mind.

(*a*) All the figures are index numbers showing relative changes with reference to a selected year or base; the year 1899 except for hours per week and weekly wage rates. The index number of the base year is called 100 for convenience. Hence the index number 203 for wages paid in 1914 means that the wages paid in that year were $\frac{203}{100}$ as great as the wages paid in 1899. The index number is usually but not always an average of relative changes. It has the great advantage of permitting us to measure average or general changes in things which are measured in different units, for example, bushels of wheat, yards of cloth, barrels of oil, bales of cotton, etc.

(*b*) The figures in Table IV, apply to the manufacturing industry, although a similar picture would be presented by figures for mining and transport. Between 1899 and 1920, for instance, the output per worker in mining increased about 99 per cent, and in railway transport about 56 per cent.

(*c*) The column showing the variation in "productivity per wage earner" is highly significant. Product per worker was about 50 per cent larger in 1927 than in 1899. But the increase has not been steady. The index for 1921 is lower than that for 1909 or for 1914. The increase since 1921 is striking. The term "productivity" is misleading. The statistics represent variations of physical output, not of utility or value. "Productivity per wage earner" is merely a relation between the number of workers and the physical output which is a highly significant index; but nothing more than a statis-

[11] "Technical Changes in Manufacturing Industries," *Recent Economic Changes*, Vol. I, p. 97.

TABLE IV

INDEX NUMBERS FOR 11 PRODUCTION FACTORS FOR PERIOD 1899 TO DATE OF LATEST AVAILABLE STATISTICS

(1899 Base Year Except for Columns 8 and 9 for which 1914 Is Base Year)

1 YEAR	2 [c] PHYSICAL PRODUCTION	3 [c] NUMBER OF WAGE EARNERS	4 [d] WAGES PAID	5 [d] COST OF MATERIALS FOR MANUFACTURE	6 PRIME COST	7 [c] PRIMARY POWER	8 [e] HOURS PER WEEK	9 [e] WEEKLY WAGE RATE	10 [c] PRODUCTIVITY PER WAGE EARNER	11 UNIT PRIME COST	12 PRIMARY POWER PER WAGE EARNER
1899 [a]	100	100	100	100	100	100			100	100	100
1904 [a]	122	117	130	129	130	134			104	106	115
1909 [a]	159	145	171	183	181	185			110	114	132
1914 [a]	169	156	203	215	212	222	100	100	108	125	151
1918	220	210									
1919 [a]	214	204	522	563	553	292			104	258	152
1920	222	205					95	234			
1921 [a]	170	158	410	383	388	—	88	188	107	228	
1922	223	173					96	192			
1923 [a]	261	197	550	524	528	330	96	212	132	202	176
1924	246	188					91	210			
1925 [a]	275	188	536	547	545	356	94	214	147	198	199
1926	285	189					94	216			
1927	280	187							151–5 [b]		

[a] Indicates Census Years.

[b] Estimated by Woodlief Thomas.

[c] Columns 2, 3, 7, and 10 from "The Economic Significance of the Increased Efficiency of American Industry," by Woodlief Thomas, *American Economic Review*, Supplement, Vol. XVIII (March, 1928).

[d] Columns 4 and 5 from U. S. Census of Manufactures, 1925.

[e] Columns 8 and 9 from "Wages in the United States, 1914–1926," National Industrial Conference Board.

tical index. It does not mean that the wage earner is responsible for or is to be credited with an increasing product from year to year. The wage earner may or may not deserve such tribute; but the figures do not prove it. Thus the index falls off in some years of depression, such as 1907 and 1921, when there is good reason to believe that the average wage earner worked with exceptional vigor and efficiency. Moreover the figures do not take account of the reduction in the hours of labor. If the shortened work day could be taken into account the increase in output per unit of labor would be shown to be even larger in recent years.

(*d*) The figures do not mean that the true cost or expense of production per unit is diminishing. To be sure, " unit prime costs " are shown to be falling rapidly since 1919. But " unit prime costs " here cover only wages and cost of materials for manufacturing. Nothing is said about capital costs or the cost of marketing and management.

(*e*) The causes or reasons for the increase of product per worker are not wholly simple. This increase is greatest in industries such as motor vehicles, petroleum refining, cigarettes, chemicals, cement, and the like, which have been expanding most rapidly in recent years. It is relatively small, or an actual decrease is shown, in industries such as shipbuilding, lumber and leather manufactures, which have been declining or contracting. This suggests that " productivity per wage earner " is more a result than a cause of those conditions which bring about the growth or decline of industries. And no convincing statistical evidence exists showing that the recent increase in productivity is due to increasing mechanization of industry.

According to the census of manufactures, for example, the amount of primary horse-power installed in factories showed a relatively smaller increase between 1919 and 1925 than in any previous census period, and the expansion from 1923 to 1925 was not unusual. The record of machinery production for the same periods, likewise, fails to show any noteworthy increase. In fact, decreases were common in some lines, although the manufacture of electrical machinery, apparatus, and supplies did increase. None of these figures, however, indicates changes in the degree of utilization of other machines or existing power equipment.[12]

[12] *Recent Economic Changes*, Vol. II, pp. 461–462.

But there can be little doubt that the striking increase of productivity in recent years is due in considerable degree to fundamental economic improvements made since the depression of 1921. Since 1919 we have made marked improvements not only in the technique of industry but in the relations between trade-unions and employers, in management and merchandizing, in standardization or simplification, and in the general elimination of industrial waste. All these explanations, says Professor Wesley C. Mitchell, may be condensed into one:

> Since 1921, Americans have applied intelligence to the day's work more effectively than ever before. Thus the prime factor in producing the extraordinary changes in the economic fortunes of the European peoples during the nineteenth century is the prime factor in producing the prosperity of the United States in recent years. The old process of putting science into industry has been followed more intensively than before; it has been supplemented by tentative efforts to put science into business management, trade-union policy, and Government administration.[13]

Marketing and Transport. — The preceding discussion dealt almost wholly with physical production. The movement in the production of time and place utilities has been both similar and dissimilar. In railway transport there has been a remarkable and general increase in efficiency and productivity since the war. J. H. Parmelee, Director of the Bureau of Railway Economics, has combined 13 efficiency factors into a composite index of operating efficiency, using the years 1920–24 as the base or 100. This index for recent years is as follows: 1920, 99.7; 1921, 95.3; 1922, 96.5; 1923, 103.5; 1924, 104.8; 1925, 109.4; 1926, 113.5; 1927, 115.2; 1928 (Jan.–Nov.), 118.1.[14]

The gain in productivity and efficiency indicated by these figures has been accompanied by a reduction in ton-mile costs. In practically every department of operation striking increases in efficiency have come about since the railways were returned to private operation after the war.

In marketing there are no general statistics measuring average productivity or costs but the opinion is prevalent and is almost certainly correct that marketing expenses in relation to sales have

[13] *Recent Economic Changes*, Vol. II, p. 862.

[14] *Recent Economic Changes*, Vol. II, p. 862, Note 17.

been increasing. Mass production has brought increased output at the factory; but in order to sell this larger output more extensive and more expensive selling operations have been required. In the sale of such articles as mechanical refrigerators and similar products the successful merchant is now generally required to furnish not only the tangible article but "service" for some time after it is sold. Expenditure on advertising increased, it is estimated, 50 per cent from 1921 to 1927. Chain stores and coöperative associations have reduced the cost of marketing in some lines, but in general selling has become more difficult, more expensive, and more important. The dealers who have been successful financially are those who have created or successfully met new demands, not those who have "economized" in marketing or manufacture. Reduction of costs and increased efficiency cannot save industries in which the demand fails. Agriculture has shown striking increase in physical productivity and efficiency since the war, but that has not been enough to insure prosperity to the farmer. In agriculture and to a certain extent in textile and other manufactures, the demand for the old staples has become highly inelastic. If prices fall, people consume about the old quantity and spend the saving or surplus upon what has been called "a great variety of cheap luxuries, ranging all the way from automobiles to chewing gum."

We return here to the problem of physical product *versus* value product discussed in the beginning of this chapter. Who serves society best — he who increases physical product or he who best gauges demand? This much at least may be said in answer: The most striking increases in product and productivity in the last twenty-five years have been made by those industries which did both, which have tapped or created new sources of demand and have at the same time introduced new or better machines and more efficient methods of manufacture.

The most striking increases shown have occurred in those industries manufacturing goods which are devoted to recreation and diversion or which have brought about radical changes in manners of living — in many cases so-called luxury goods, that have become, in fact, necessities. Familiar examples, in which the percentages of increase run into four or five figures, are the automobile and its related products — gasoline and tires — phonographs, photographic

equipment and supplies (including moving pictures), silk goods, confectionery, ice-cream, cigarettes, and, in recent years, rayon and radios.[15]

Saving and Capitalistic Production. — "Putting science into industry" (which explains increasing productivity) means many things tangible and intangible: higher wages, more wholesome working conditions, better management, and better government, as well as more and better machines, large scale production, and better forms of business organization. Probably no other factor does more to explain the development along the lines of physical productivity than the increasing use of capitalistic methods of production. Capitalistic production means in general roundabout production. We subdivide labor, and to do so we must plan more efficiently and further ahead. The interval between the first act of production and the emergence of the consumption good lengthens. More waiting is required. And to support the workers during that lengthening interval, more capital is required.

Saving and foresight are thus indispensable in the capitalistic era in which we live and work. Some members of society must have the vision to see that the expenditure of a certain amount of time and labor in fashioning capital instruments and in planning ahead will be rewarded by the greater amount of consumable goods which can be produced with the aid of such methods. Along with such foresight must, obviously, go the willingness to give up or postpone, during the period of waiting, the satisfactions that would be derived if the same time and labor were spent in the direct production of consumable goods.

Much controversy has taken place in the past about the nature of capital, in the course of which it has been maintained that the ultimate factors of production are labor and nature, and that capital is merely stored up labor. This may be so, but some one must do the storing-up and be paid for it. Under a socialistic state, the government or the people would do the waiting and would get their reward or price in the enhanced production resulting from well-planned machine production. Under the system of private enterprise, individuals or corporations do the waiting (see Table V)

[15] Woodlief Thomas, *American Economic Review, Proceedings of the American Economic Association* (March, 1927), Vol. XVIII, No. I, p. 133.

TABLE V

Certain Major Items of American Savings [16]

(In millions of dollars)

Year	Increase in Savings Deposits. All Banks [a]	Increase in Assets of Building and Loan Associations	Premiums Paid to Life Insurance Companies Less Operating Expenses			Additions to Surpluses of Corporations	New Capital Issues
			Total	Ordinary Companies [b]	Industrial Companies		
1913	144	111	524	374	150	—	—
1918	659	129	706	502	203	—	—
1919	1,506	228	840	566	274	—	3,588
1920	2,274	408	931	613	318	—	3,635
1921	1,187	356	1,088	719	369	—	3,577
1922	1,078	452	1,198	779	419	1,747	4,304
1923	2,148	600	1,322	833	489	2,528	4,304
1924	1,462	823	1,514	947	567	1,575	5,593
1925	1,945	743	1,694	1,046	647	2,957	6,220
1926	1,562	825	1,873	1,145	729	2,335	6,344
1927	1,395	844 [c]	2,079	1,269	810	—	7,776
1928	2,042	—	—	—	—	—	8,050

[a] Includes time certificates of deposit due on or after 30 days and postal savings funds deposited in banks.
[b] Net profits less cash dividends and income and profits tax as shown on income tax returns.
[c] Total assets at end of 1927 were $7,197,000,000.

[16] *Commerce Year Book*, 1929, p. 665.

and are paid for it in interest or profits. The one evident thing is the vital importance of saving in any system of modern production whether privately or publicly owned.

Forms and Extent of Saving. — In modern times, the forms of saving run the gamut from the primitive method of setting aside a part of the farm crop for seed to the "financing" of industry through the instrumentality of banks, insurance companies, and corporate saving. The latter methods of saving are now the typical ones; indeed, without their aid it is difficult to see how our stock of capital goods could have been amassed as rapidly as it has been. For instance, a teacher, in order to protect his family, decides to take out a life insurance policy. The premiums he pays represent saving on his part. This in itself does not result in any increase of capital goods. The insurance company, however, uses the premiums it receives to purchase, say, the bonds of a railway company. In other words, it makes a loan to the railway which employs the money so borrowed to hire men to build a road bed and lay tracks or to construct a terminal. In short, the teacher has in effect transferred to the railway's workmen a part of his potential stock of consumption goods, in return for which the workmen construct capital instruments which will, in the future, result in the increased production of consumption goods. Of this increased product a share, normally greater than the amount of goods lent by the teacher, is returned to him or his family.

It has recently been estimated that the total annual savings in the United States amount to approximately $10,000,000,000. Table V gives some idea of the channels by which this huge amount of purchasing power is directed from saver to user. This table shows the trend of various types of savings since 1913, but does not pretend to measure the total volume of savings. Some of the important items of savings not shown in the table are other kinds of insurance, certain time deposits in commercial banks, reductions of indebtedness from current income, and non-corporate payments for capital goods from current income.

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CHAPTER VIII

CONSUMPTION

Consumption Defined. — *Consumption, in its broadest economic sense, means the use of economic goods and personal services in the satisfaction of human wants.* Ordinarily, consumption means not only use but "using up"; it involves the destruction or diminution of utilities; *it is negative production.* But when the value of the good increases while it is being used, as sometimes occurs in the case of land, jewels, and other durable goods, consumption involves "using up" only in a time sense. The money invested in land or jewels could have been spent for some other satisfaction. The only thing "used up," is the temporary time utility. This exceptional case is not important as a part of consumption, although it is important in connection with the subject of opportunity or displacement costs discussed in Chapter IX. There are many aspects of consumption which do not fall within the scope of economics; for the use of wealth is a large part of the problem of life. Passing judgment upon the moral or rational standards by which different wants should be measured, the "real" as distinguished from the money values of foods, the specific goods which should be regarded as luxuries, or as harmful; these and similar questions must be left to other sciences, to the philosophy of life or to the common sense of the reader.

Productive and Final Consumption. — When used without qualification, the word "consumption" in economics is commonly taken to refer to the use of goods or services in satisfying wants directly. But some goods, such as machines and raw materials, are used up in the production of other goods. This form of use and, in general, consumption undertaken principally for the purpose of acquiring income, is here referred to as *productive consump-*

tion. That consumption which yields a direct satisfaction of wants is *final consumption.*

The Measurement of Consumption. — The satisfactory measurement of consumption is extremely difficult. Since the latter part of the eighteenth century when the Rev. David Davies published (in 1795) *The Case for the Labourer in Husbandry* and Sir Frederick Norton Eden's famous book *The State of the Poor* appeared (in 1797), there have been recurrent investigations of this subject on an increasingly extensive scale. A vast number of significant facts have been brought to light. But at almost every point the investigator is checked by the inherent difficulties of measuring final consumption and for the most part the student must be content with approximations and inferences.

1. Real Income and Real Wages. The natural starting point in the investigation of consumption is the expenditure of money; but we are usually forced to substitute money income, wages or earnings, on the assumption that for the great mass of people, income and expenditure are not materially different. The next step is to ascertain what this money purchases. Here again we are beset by great practical difficulties, particularly in regard to household budgets. Some families live comfortably on an income with which others would be pinched, for skill in purchasing differs greatly. However, the most frequent method of measuring the purchasing power of income is by the combination of index numbers: Index numbers of money wages or earnings are divided by the index numbers of retail prices or cost of living and the resulting indices are called index numbers of real wages or relative real earnings. The latter are generally used for comparative purposes. Thus P. H. Douglas's[1] figures for relative annual real earnings of employed workers in American industry indicate that from 1890 to 1924, such real earnings increased from a level represented by 95 to a level represented by 122. Or, if the purchasing power of hourly wages measured in terms of food and rent is used as a standard, recent estimates indicate that, taking such purchasing power at Philadelphia in January 1927 as 100, the similar indices are 86 for Ottawa, Canada;

[1] *The American Economic Review, Papers and Proceedings* (The American Economic Association, 1926), Vol. XVI, No. I, pp. 17–49.

76 for Sidney, Australia; 57 for London; 35 for Berlin; 29 for Vienna and Rome; and 26 for Brussels.[2]

There can be little doubt that the level of real wages in this country is materially higher now than it was before the war; and that since the depression of 1921 real wages have materially increased, at least for city workers. But the calculation of index numbers of real wages is beset with technical difficulties at many points. The index numbers practically never cover family earnings, they seldom give adequate effect to unemployment and they ignore the more recent changes in consumption which occasionally — as in the widespread use of the automobile in this country — are almost revolutionary in their effects. Index numbers of real wages or earnings must be used with caution, and may have to be abandoned.

2. Household Budgets. For many purposes the natural unit of consumption is the family. The problems involved in attempting to measure household expenditures in a scientific way are exceedingly difficult and to a large extent have not yet been solved. The science of consumption is still in the making; and the extensive investigations noted above have, on the whole, not been productive of important scientific generalizations. Writing in 1857, Ernst Engel, the distinguished head of the Prussian Statistical Bureau, laid down four generalizations which have since come to be known as *Engel's Laws:* (1) The greater the income, the smaller the relative percentage of outlay for subsistence. (2) The percentage of outlay for clothing is approximately the same, whatever the income. (3) The percentage of outlay for lodging or rent, and for fuel and light, is invariably the same, whatever the income. (4) As the income increases in amount the percentage of outlay for sundries becomes greater.

Subsequent investigations in the United States have shown that the fourth law is sound under practically all conditions, that the first holds good with rare exceptions (although such exceptions have been found), and that the other two are not applicable to conditions in the United States. For incomes below $2500 the American statistics seem to indicate that, as the income increases

[2] E. E. Hoyt, *The Consumption of Wealth* (The Macmillan Co., New York, 1928), p. 724, based upon information supplied by the National Industrial Conference Board.

TABLE VI

PER CENT OF EXPENDITURES FOR THE PRINCIPAL GROUPS OF ITEMS OF COST OF LIVING
(12,096 American Wage-Earners' Families, 1918–19)

INCOME GROUP	NUMBER OF FAMILIES	AVERAGE YEARLY EXPENSES PER FAMILY FOR:					
		FOOD	CLOTHING	RENT	FUEL AND LIGHT	FURNITURE, FURNISHINGS	MISCELLANEOUS
Under $900	332	44.1	13.2	14.5	6.8	3.6	17.8
$900 and under $1,200	2,423	42.4	14.5	13.9	6.0	4.4	18.7
$1,200 and under $1,500	3,959	39.6	15.9	13.8	5.6	4.8	20.2
$1,500 and under $1,800	2,730	37.2	16.7	13.5	5.2	5.5	21.8
$1,800 and under $2,100	1,594	35.7	17.5	13.2	5.0	5.5	23.0
$2,100 and under $2,500	705	34.6	18.7	12.1	4.5	5.7	24.3
$2,500 and over	353	34.9	20.4	10.6	4.1	5.4	24.7
All incomes	12,096	38.2	16.6	13.0	5.2	5.1	21.3

TABLE VII

RELATIVE CHANGES IN AVERAGE EXPENDITURES AND INCOME IN THREE INVESTIGATIONS OF THE UNITED STATES BUREAU OF LABOR STATISTICS [3]

ITEM	1889–90	1901	1918–19
Expenditure for			
Housing	100	144	221
Food	100	116	204
Clothing	100	90	223
Fuel, light	100	114	223
Savings	100	78	119
Other items	100	103	299
Total income	100	109	218
Index number of U. S. Bureau of Labor Statistics for retail cost of food	100	102.5	240–250

[3] Emma A. Winslow, Contributions from Budget Studies to the Construction of a Statistical Index of the Purchasing Power of Consumers in the United States (in Berridge, Winslow, and Flynn, *The Purchasing Power of the Consumer*, A. W. Shaw, New York, 1925), p. 141.

the relative expenditure for clothing increases, while that for rent or shelter decreases. On the other hand our scanty information regarding families with incomes over $5000 a year indicates that as the total expenditure for consumption goods increases the proportionate expenditure for clothing decreases rapidly, while the proportionate expenditure for housing and wages of servants tends to increase.

3. Other Statistics of Consumption. We have, as it has been seen, only a small body of genuine statistics of consumption. For the most part statistics of production are used, on the assumption that what is produced is consumed. These measurements of consumption are obviously approximate and indirect. Indeed, some of the most significant indices of general consumers' welfare are found in indirect coefficients such as the death rate from tuberculosis, the death rate of infants, per capita consumption of food, or the proportion of family expenditure devoted to food. One writer has suggested that real wages are inversely proportional to the time required to earn or produce the necessities of life, and that on this account the amount of leisure would be the best measure of real wages.

It is possible only to mention here some of the more general and recent results of these statistical measurements. References to convenient sources will be found at the close of this chapter. So far as the United States is concerned, the figures tell a story of marked improvement in the general scale of living during the last quarter of a century. This improvement has been noticeable for most classes of the population except farmers since 1921. A striking diversification in the *diet of the American people* has taken place, showing itself particularly in increased consumption of fruits, vegetables, sugar, dairy products, and former rarities. It is interesting to note that there has been a steady decline, from the physiological standpoint, in *food requirements*, particularly in the amount of food required to maintain energy and body heat. Malnutrition or undernourishment is more prevalent in this country than is commonly supposed, but it is probably due less to poverty than to bad food habits, and the facts indicate (but do not prove) that it is declining.

Residential construction, measured by floor space and other tests, has increased more rapidly than population since 1922; and the quality — so far as the latter can be measured by cost and proportion of homes equipped with stationary bath tubs, telephones, and electric wiring — has steadily improved. Expenditure for clothing seems to have decreased, relatively, at least the industries engaged in the production of wearing apparel have not grown since 1919, if growth be measured by output or number of wage earners. Statistics of per capita life insurance in force and other indices of thrift and property ownership show a rapid increase since 1919; and the number of students in the universities and colleges per 1000 population has been increasing rapidly. The total expenditure for *free social services* in education, recreation, charity, health, and libraries is estimated to have increased from $859,336,000 in 1915 to the sum of $2,860,935,000 in 1926.[4]

The dramatic increases in the purchase and use of automobiles, radio equipment, electrical appliances, and so on, have been noted in the chapter on production. They are highly significant not only as indices of shifting standards of living, but as illustrations of the important part which the consumer and new habits of consumption play in the economic life of today. They explain perhaps more than any other simple phenomena the degree and particular form of "prosperity" which the United States has enjoyed since 1923.

Does Consumption Control Production? — Much has been written about the relative importance of consumption and production. Banfield and Jevons hold that the theory of consumption is the scientific basis of economics. It has been argued that consumption controls not only demand but, indirectly, supply as well. The consuming public is frequently described as a great economic electorate, casting through its daily purchases the dollar votes which determine how capital and labor shall be distributed, which industries shall thrive and which shall perish. The Consumer, we are frequently told, is King.

[4] *Recent Economic Changes*, Report of the Committee of the President's Conference on Unemployment (McGraw-Hill Book Co., 1929), Vol. I, p. 19, from which many of the data here quoted have been taken.

The whole debate on the question whether consumption controls production is, however, essentially unreal both for theoretical and practical reasons: first, the normal human being has a deep craving to be creative or productive. To a considerable extent, we produce in order to satisfy our desire for useful activity or because we love the game of business. While this is not true of the last hour's work of the average wage earner or "the tired business man," it is true that the income earned by this marginal exertion is wanted, as much to permit the individual to go on with activities which appeal to him as to secure the wherewithal to buy consumption goods. Secondly, the purchases or choices of consumers are to a large extent made for them by producers through advertising and high pressure salesmanship. Demand, as the advertisers say, is not only recognized, it is also created. There can be no doubt of the tremendous power exerted by the consumer. He is a giant, but a sluggish, sprawling giant.

To the question, how greatly do aggressive sales methods affect consumption, we cannot give an entirely satisfactory answer for obvious reasons. In fact, nobody knows. There are other influences beside selling efforts affecting demand: general social tendencies, changes in demand for complementary goods, frequently an improvement in the product itself. There is no doubt, however, that in some cases the speeding-up process due to advertising is huge. The late great increase in the demand for raisins in the United States has undoubtedly been due very largely to the efforts of the California Raisin Growers' Association, and the increasing consumption of citrus fruits has been effected in considerable part by the advertising of the California Fruit Growers' Exchange. The demand for automobiles and radios is due to many factors: advertising and salesmanship is an important one. It is probable that the increasing consumption of many new luxuries of the toilet is chargeable almost entirely to advertising. High-pressure salesmanship of domestic electric equipment has probably been the chief factor so far in introducing the electric washing machine and vacuum cleaner into American homes. "It pays to advertise" has become a slogan on every one's lips, and expenses in the United States for national advertising alone are estimated to average nearly ten dollars for every man, woman, and child in the country. We are told that the Wrigley Company pays $108,000 a year for the electricity consumed in one advertising sign in New York City. The cost of the advertising in each issue of *The Saturday Evening Post* is nearly a million dollars.[5]

[5] E. E. Hoyt, *The Consumption of Wealth* (The Macmillan Co., New York, 1928), Chapter X, p. 102.

The debated question of the primacy of consumption or production is, then, essentially misleading. It is as unreal as to ask which blade of the scissors does the cutting. We do not produce wholly to consume; we do not consume wholly in order to produce. Both are parts of a larger activity or purpose, that of life itself.

The Equilibrium of Consumption and Production. — Production and consumption are interdependent. In the capitalistic economy of today, it is supremely important that a nice balance be maintained between them.

The funds which consumers have to spend come almost exclusively from productive industry. The wages, salaries, rent, interest, dividends, and profits which make up consumers' incomes are derived, directly or indirectly, from industry and represent for the most part industrial costs. If industry is to prosper, the consumer must pay all these sums back to industry *and more* — industry must have a reasonable profit. But the consumer does not spend all he receives; he does and should save a considerable part of his income. If these savings are invested in industrial developments, they filter back to consumers as wages, profits, and the like and are again expended largely in consumption. The demand for the products of industry is not necessarily curtailed by saving; and except for the possible deficit arising from the necessity for profits noted above, the balance between consumption and production can be maintained. But if the savings are hoarded, or if they are used to stimulate and bid up the prices of outstanding securities or land, and if the persons owning such securities or land do not spend the profits realized on their sale in consumption, then expenditure on consumption will be unduly curtailed; the balance between production and consumption will be disarranged; and business depression is likely to result.

Modern industrial society, or business in the larger sense, is or closely approximates a highly interdependent organism, of which the most important members are the consumer, the producer, the saver or investor, and the institutions which control the supply of money and credit. Money and credit resemble the blood of the human body; they act as the circulating medium between producer and consumer. Mutual dependence is an essential part of

this quasi-organism. If it is to function properly, each member must play its appointed part. The balance may be destroyed by excess or defect in production, consumption, saving, or in the supply of money and credit.

This point of view represents an illuminating approach to some of the most fundamental problems of economic science. In connection with consumption, it directs attention to these important considerations:

(*a*) Under-consumption is a real menace, not only to the welfare of the wage earner but to business prosperity as well. It may arise because the consumer does not get enough to spend or because he saves too much.

(*b*) The first mentioned cause of under-consumption raises all the problems treated in the chapters dealing with the distribution of wealth. Here we can only say that current diagnoses of the trouble as primarily monetary in origin impress us as mistaken. The phrase "Consumers do not spend enough because they do not receive enough to spend," is particularly misleading when employed indirectly to convey the notion that the trouble may be remedied through increased monetary circulation. Under-consumption could cause business depression even though all classes earned enough to maintain them in comfort. The problem relates to the balance between production and consumption, as well as to the adequacy or inadequacy of consumption among the very poor.

(*c*) The consumer helps both himself and business by buying when goods are cheap; and this truth applies equally to final and productive consumption. "Long range planning" both of public and private expenditures, with the object of increasing expenditures in times of depression and curtailing them in boom periods, is obviously to be encouraged. But this conclusion does not justify expenditures merely to make work, and *a fortiori* does not justify borrowing or the use of public credit merely to make work. Desirable expenditures should, so far as possible, be *timed* so as to alleviate depression.

(*d*) Salutary and necessary as thrift usually is, the consumer may save too much, both from his own standpoint and that of society.

Individually, he saves too much when he postpones the satisfaction of higher and pressing wants purely through avarice or unwarranted apprehension about the future. Socially, he saves too much when his savings cannot be soundly invested in the extension of old and the development of new business. The business man must plan these extensions wisely. But the consumer has an equal responsibility in responding — by readily purchasing new things and services calculated to increase his wholesome satisfactions.

Modern business is necessarily dynamic. It cannot stand still. Capital expansion and growing investments are indispensable accompaniments of healthy business, and they imply the ceaseless awakening of new wants, of better and finer wants, if the movement is to bring true progress and not degradation. Progress is as dependent upon alert and responsive consumers as upon prudent and efficient producers. "Poor peasants, poor kingdom," was a favorite French aphorism of the eighteenth century. "Sluggish consumers, sluggish business," is equally true of the present order.

Necessities, Conveniences, and Luxuries. — Much final consumption — *e.g.* for necessary food and clothing — is also productive consumption. Indeed, more of our consumptive expenditures than we ordinarily appreciate are influenced or controlled by their probable effect upon our future earning power. Such expenditures are at once productive and final, costs as well as satisfactions. Anything which represses them represses production.

Although our primary expenditures are for necessities, as soon as the scale of living rises, we soon begin to indulge in conveniences and luxuries. This classification of consumption into expenditures for necessities, conveniences, and luxuries is both one of the most important and one of the most unsatisfactory classifications used in economic discussion. It is unsatisfactory largely because goods constantly pass from one class to the other. The automobile may be a luxury in one decade, a convenience in the next, and a practical necessity in the third. And intelligent men's judgments differ radically about where specific goods are to be

classified. Is tobacco a necessity, a convenience, a luxury, or "something else again?"

It is impossible to obtain a general agreement about this classification except in times of war and financial emergency when non-essential industries are restricted and heavy taxes imposed upon luxuries. But despite the difficulty of drawing the dividing lines with scientific accuracy, those lines exist in the sense that if some consumption is curtailed, industrial efficiency will be crippled or reduced; while the repression of harmful expenditures tends to raise industrial efficiency; and yet other consumption occupies a substantially neutral position in relation to productive efficiency. In general, wealth and activity devoted to productive consumption react differently from wealth and activity devoted to final consumption. Taxes placed upon the former are usually shifted, while taxes placed upon the latter are not, in general, shifted. Surveying society as a great economic organization, it is plain that this organization operates at a profit and produces a surplus of satisfactions over costs. We should do as much work as we do at present, for a smaller return of goods and services, *if we had to do so*. This surplus of the nation is at once a measure of its triumph over poverty and the most eligible fund for financing public or social improvement. It is the ultimate source from which most taxes are paid. Certainly it seems to be the source which may be tapped with the least social sacrifice.

Luxury and Harmful Consumption. — One proof of the existence of this social surplus is the enormous consumption of luxuries. Luxury is the name of a vague something which society has always viewed with a sense of mingled tolerance and condemnation. What is its meaning? In the first place, it is clear that people ordinarily consider as luxuries many things in themselves innocent and desirable, as handsome dresses, jewels and pictures. No one but an ascetic will condemn as wrong in themselves things that appeal to taste and finer appreciations, and yet we feel that the use of such things is not always justifiable. Second, the popular idea of luxury recognizes a difference in persons. We cannot help condemning in one person what we approve in another. Third, we judge luxury differently at different times. There is a continual transfer of

articles from the list of luxuries into that of comforts and necessities. This transfer is brought about by the consensus of social judgment, and is increasingly acquiesced in by all. So we see that the term " luxury " does not apply to goods of a certain character, but to certain goods in their relation of time and person. For the purpose of discussion, we shall define luxury simply as *excessive personal consumption.*

Our definition of luxury as excessive consumption necessarily condemns it as unjustifiable, but this should not be taken as a condemnation of an enjoyment of more than the simplest kind of life. There would be little purpose in producing wealth in larger and larger volume if it did not mean a higher and better standard of life. But this meaning does not justify the squandering of immense sums on passing caprices whose satisfaction cannot be justified from the standpoint of what is a sane life. Nor does it constitute a defense of ostentatious expenditure. Extravagant expenditure is sometimes condoned on the ground that it gives employment to labor, but obviously just as much employment would be given to labor by an equivalent expenditure for laudable purposes. Expenditures for any present gratification can be made only by reducing the amount either of other expenditures or of savings. Rarely in these days are savings hoarded: they are used for gainful, most often for socially productive, purposes. Extravagant expenditures, therefore, generally divert production into employments less beneficial to society. Moreover, to look upon expenditure as desirable because it gives employment to labor, or " puts money in circulation " and " makes trade good," is to forget that, ethically viewed, the chief purpose of production is the satisfaction of human wants, and that so far as the wants satisfied are trivial or worse the necessary productive effort is virtually wasted.

We have been careful to avoid the impression that luxury consists in the use of pernicious goods. It is a common query, " Why should I not have this if it does me no harm? " This we have tried to answer in the preceding paragraphs. A luxury may be a positive good in itself, a satisfaction which society may well hope to make general, but it is a good which society cannot yet afford, because

other and greater wants are yet unsatisfied. But there is another kind of consumption which is objectionable in an entirely different way, not because it is excessive or premature, but because it is harmful in itself. Aside from the fact that such consumption usually tends to diminish the sum total of the durable satisfactions that the consumer gets out of life, it ordinarily lowers his productive efficiency, and this involves a further loss to himself, to any who may be dependent upon him, and to the whole community.

Evolution of Luxury Taxes. — Some light upon the economic character of luxuries may be found in the evolution of luxury taxes. In the past, it has been the practice to single out particular articles which were treated as predominantly luxurious or harmful; and this practice will undoubtedly continue. Thus, the federal government collected more than $300,000,000 from the tax on cigarettes alone in the year ending on June 30, 1928. But several modifications of this method of procedure are beginning to show themselves. In the case of harmful consumption, there is now a strong tendency to prohibit rather than tax it. Thus, lotteries are now generally prohibited, whereas formerly they were widely used as a source of public revenues. Legislators obviously feel that if an article or custom can clearly be characterized as harmful, it should be suppressed rather than repressed by taxation.

An even more interesting development is the tendency to generalize luxury taxes. In this country we have repealed the federal tax on automobiles, candy, jewelry, and the like, largely (though not wholly) on the grounds emphasized above — that what is a luxury at one time, or to one person, is not a luxury at another time or to another person. We are tending to make the progressive income tax do the work of the old luxury or sumptuary taxes. So far as an income tax is personal, *i.e.* on individuals rather than on corporations or other business units, it may be regarded in material part as a generalized luxury tax. The State levies the tax on income in excess of the personal exemptions, with the understanding that each man will curtail those expenditures which mean least to him. Each taxpayer is left to determine his own luxuries. This change is in line with other movements making for an increase in personal freedom. If the taxpayer is shiftless and thoughtless, he may

meet his increased taxes by cutting down his appropriations for education, saving, or other relatively worthy objects. If he is thoughtful and wise, he cuts down that expenditure which is least helpful. In general, the individual is the best judge of what are luxuries for him.

The taxation of luxuries and non-essentials calls attention to two aspects of consumption which are of wide importance:

(*a*) Much consumption is ostentatious. It takes place not for its own sake but to impress others. The taxation of such articles may not curtail the demand for them; it may even increase their vogue and appeal.

(*b*) Compared with production, consumption is highly fluid and elastic. Tax bread, and many taxpayers will cut down their consumption of gasoline, their savings, or their contributions to religious bodies or to charity. Among other consequences of this characteristic of consumption, is the fact that business men and producers are nearly always keenly affected not only by direct taxes imposed upon them or their products, but by the general burden of taxation. Many an industry languishes from decline in demand, the essential cause of which is a high burden of general taxation.

Standards of Living. — The inefficiency and waste in consumption noted above are partly due to the fact that consumption is controlled largely by habit, imitation, and social emulation.

> The standard of expenditure which commonly guides our efforts is not the average, ordinary expenditure already achieved; it is an ideal of consumption that lies just beyond our reach, or to reach which requires some strain. The motive is emulation — the stimulus of an invidious comparison which prompts us to outdo those with whom we are in the habit of classing ourselves.[6]

Few terms are more used and abused than "the standard of living." We meet heated references to "the American standard of living" in tariff and labor debates; the publications dealing with household budgets and standards of living among farmers and workingmen would fill a library of respectable size. Because of its widespread use, therefore, it is important to note that marked

[6] Veblen, *The Theory of the Leisure Class* (Vanguard Press, New York, 1926), p. 103.

differences of meaning are attached to the term "standard of living," and that much hazy thinking is associated with it.

In its most frequent use, perhaps, the term means that scale of consumption which, in a given social group or class, is deemed to be necessary for a tolerable or respectable existence. But Alfred Marshall and others protest that this idea is better conveyed by the term "standard of comfort"; that "living" implies many forms of activity not included in "consumption"; and that "a rise in the standard of life" — as Marshall uses that phrase — "implies an increase of intelligence and knowledge and self-respect; leading to more care and judgment in expenditures; and to an avoidance of food and drink that gratify the appetite but afford no strength, and of ways of living that are unwholesome physically and morally." [7]

Similarly, there is an important difference of usage between those who employ the term to suggest an actual scale of living and those who use it to suggest one that is ideal or desired.

When anyone's income exceeds his *standard of living*, his incentive to work is removed. He has nothing to work for. The distinction between *standard of living and scale of living* must be carefully recognized. One's *standard of living* is in his mind. It is his conception of the way he wishes to live. It is the embodiment of his desires. One's *scale of living* is the way he lives; not the way he wants to live. If one who is living in a tenement wants to own a home; if he patronizes movies when he wants to go to operas; if he walks when he craves an automobile; if he toils six days a week when he wants to spend the winter traveling in Europe, he has a standard of living far above his scale of living. A marked increase in his income would be absorbed in bringing his scale of living nearer to his standard. Higher wages will make him work harder and the probabilities are that his standard will keep rising as his scale of living rises, thus giving him a continuing incentive to work harder and harder.

But one whose standard of living rises no higher than satisfying his stomach "with something that will fill up," or who has no abhorrence for the crowding of the tenement, is happy when he has a bottle and some cigarettes, and is content with clothes from the secondhand store, has a standard of living quickly attained. He will see no reason for working as long as he has some money in his pocket.[8]

[7] A. Marshall, *Principles of Economics* (The Macmillan Co., London, 1920, 8th ed.), p. 688.

[8] Lescohier, Don D., *The Labor Market* (The Macmillan Co., New York, 1919), p. 95.

We meet, in connection with this question, some of the most interesting paradoxes encountered in economics. The very spirit of imitation and emulation which accounts for so much waste and vulgarity in consumption, exerts a powerful, and in the main, beneficial influence upon production and economic activity in general. The desire to live as well as, or better than, their associates, spurs the more ambitious members of society to harder work, affects the age of marriage, the number of children per family and consequently the supply of labor; and stiffens the opposition of wage earners to reductions in their rates of pay.

Another paradoxical and important conclusion has been reached by a large majority of those who have studied the effects of a rise in the scale of consumption upon workingmen's efficiency and activity. It is generally agreed that the short- and long-time effects of such a rise are likely to be different. People will, of course, be affected differently; but for the majority increased satisfaction of wants temporarily reduces the intensity of labor and increases both the marriage and the birth rates. For the long run, however, the consensus of opinion supports the conclusion that a rise in the scale of consumption is likely to increase the intensity of labor and to reduce both the marriage and birth rates. All of these long-time effects tend to raise wages. Figuratively speaking, therefore, the conclusion seems to be that the wage-earning classes may raise themselves by pulling at their own boot straps. If they raise their scale of consumption or if it is raised for them, forces are set in motion which operate in the long run to increase their earning power. The causal relationship here between a higher scale of consumption and higher wages is not invariable and is not direct. But it seems nevertheless to be real.

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PART II

VALUE AND EXCHANGE

CHAPTER IX

VALUE AND PRICE

Value and Valuation in General. — To follow economic discussions intelligently it is indispensable to understand that there are many kinds of value and many processes or methods of valuation. In everyday language value means worth or excellence, the attribute of a thing which makes it estimable or important. There are as many kinds of value in the popular sense as there are kinds or sources of worth. Thus, we speak of human values, ethical values, scientific values, musical values, economic, and many other kinds of values. *In economic treatises "value" practically always means exchange value as hereafter defined.* But there are many different types of economic value: subjective value, value for taxation, value for rate regulation, and value for condemnation. All these and many others are distinguishable and at times markedly different.

It follows that the processes or methods of valuation differ greatly. "Fair value" for purposes of taxation may not be the same as "fair value" for purposes of rate regulation or condemnation. Within limits that are sometimes narrow and sometimes broad, the process of valuation almost always involves an exercise of human judgment. As will be shown, exchange value means potency in exchange. Exchange value thus looks to the future as well as the past and often rests upon human opinion. It is in the nature of an estimate. Thus, on January 9th, 1929, there were sold on the New York Stock Exchange 43,400 shares of the common stock of the United States Steel Corporation at prices ranging from $\$158\frac{3}{4}$ to $\$160\frac{1}{2}$ per share. We know or can learn as an exact fact how much money the various blocks of stock sold for that day. But what other goods these blocks could have been exchanged for — *i.e.* their general potency in exchange — can only be a matter of estimate. Similarly, we can estimate only the value of shares

not actually sold on that date. For an ordinary block — *e.g.* 100 shares — this estimate would naturally be confined within a narrow range. But what a block of 10,000 shares could have been sold for on that day involves a judgment that might vary within a very considerable range. Valuation in general, therefore, rests on judgment and opinion exercised within limits fixed by sales or other objective economic facts. A *sound valuation* is a careful judgment by a qualified expert.

Law of Diminishing Utility. — In explaining value we start from the essentials of consumption — human wants and their satisfactions.

Two facts stand out prominently: the *expansion in the number and variety of wants*, and the *satiability of any particular one of them.* As man has progressed from savagery to civilization, the variety of things he desires and even considers necessary to his existence has expanded enormously. His interests become more varied, his capacity to enjoy becomes larger, and he lives a fuller and more complex existence. There have indeed always been those who would have us " return to nature " and live a simple life, but taking the world as it is, the expansion of human desires with passing time appears to be without limit.

But when we turn to consider some specific want by itself, as it is at any particular time, the matter is different. Our nerves weary of a repeated stimulus, and any attempt to continue indefinitely the enjoyment of some sensation results in satiation. A phonograph record grows stale after a number of repetitions. An apple has differing degrees of utility for any one of us, varying from the highest degree, if we are on the point of starvation, to distaste, if a considerable number have just been consumed.

The intensity of our desire for additional units of a commodity decreases as we acquire successive units. This " law of diminishing utility," as it is called, rests upon a broader basis of human experience than the mere satiability of the appetite for a particular kind of food, or the growing weariness of the nerves under the repetition of a particular stimulus. The truth is that most commodities serve a multitude of different needs and different purposes, and that these needs and purposes vary greatly in their importance.

This is brought out below in an illustration based upon the different uses of water.

To guard against possible misunderstanding a word of caution is necessary at this point. With passing time the use of a particular commodity often cultivates a taste for it, so that an increased supply is more urgently desired than were the earlier increments. Thus familiarity with good books or good pictures or good music may increase the pleasure that we find in such things, and so may intensify our desire to have more. And bad habits, like good ones, are prone to "grow on us." Such, for example, is the case in the use of habit-forming drugs. But these facts do not contradict the law of diminishing utility. For that law relates only to the consumer as he is at any given time, with whatever possessions, habits, desires, and aversions are his at that time. Men change and their wants change, and the character of a man's consumption is a very important factor in changing his wants. But in this chapter we shall consider men as potential buyers or sellers of goods *in a given market at a given time*, and for men so considered the law of diminishing utility expresses a fundamental truth of very great significance.

Marginal Utility. — It must be evident, therefore, that to say that a certain thing possesses utility is indefinite. That merely tells us that it is capable of satisfying some want, perhaps important, perhaps unimportant. For any one person different units of the same commodity may possess very different degrees of utility. *The utility of the final or marginal unit of a person's stock of a given commodity is called the marginal utility of that commodity to that person.* If, for example, a boy has six apples, the marginal utility of apples to him is the utility (or want-satisfying capacity) of the sixth apple. This does not mean the utility of any particular apple, but does mean (if the apples are all alike) the utility dependent on the possession of any one apple of his stock of six. This will be less than if he had fewer apples, and more than if he had a larger number. So with a householder who has a stock of ten tons of coal for his winter's supply. The tenth ton (any one ton of the ten) is the marginal ton; and the utility it adds is the marginal utility of coal to the householder. *Marginal utility*

is thus determined by the intensity of the want dependent for its satisfaction upon the possession of one unit of a commodity. The larger one's supply of a commodity, the smaller in general will be the importance one attaches to the possession of *any one unit* of the supply.

Some writers prefer to define marginal utility as the utility of an *additional* unit of a commodity rather than as the utility of the last unit of one's present stock. In some applications of economic analysis it is convenient to think of the successive units of increments in the supply of a commodity as indefinitely small. In this case the difference between the "last unit" and an "additional unit" becomes negligible. But for many purposes it is more convenient to think of the size of our successive increments as being that of the ordinary units in which goods are customarily bought and sold. In such cases whether the "last unit" of the "additional unit" should be considered the marginal unit depends upon whether we think of the individual concerned as a possible seller or a possible buyer. If the boy with the apples is weighing the desirability of having yet another apple against that of some peanuts he would have to part with in exchange for it, the marginal utility of apples to him may properly be said to be the utility of the additional apple, for this is the basis of its subjective importance for the purpose in hand. But if he is contemplating the exchange of an apple for additional peanuts the marginal utility of apples to him depends upon the importance of the sixth apple. It is always accurate to identify marginal utility with the utility of the last unit of a stock, if we remember that in some cases it is the last unit of an existing stock and in other cases the last unit of a (possibly) increased stock.

Marginal Utility Illustrated. — A clearer notion of marginal utility may be given with the help of Figure 1, following. We take for our illustration the consumption of water, which has numerous uses of various degrees of importance. We have marked off different portions of the base line representing quantities of water available for man's use. The first quantity, *ab*, is just enough for drinking purposes. Suppose this is all the water to be had. There will be no question of sprinkling lawns

or even of bathing under such circumstances. What will be the utility of water? Evidently the extent of the service which it renders us, and as this is the preservation of our life we cannot measure it. We will indicate it by the area above the line *ab*, which runs upward indefinitely as the curved line fails to close in. What will be the importance of another portion of water at this point of supply? As this additional portion which we desire is not needed for drinking but for a less important purpose, the marginal utility of the water will now depend upon the urgency of this less important want. Now suppose we have three portions of water, represented by the lines *ab*, *bc*, and *cd*. We now have enough for all our wants, down to sprinkling the lawn and the street. We are willing to pay something for more water for this purpose, but how much? As much as when we had only water enough to drink? By no means. The next want on our list is comparatively unimportant, and of course we appraise an increased supply accordingly. With two or three more portions of water all our wants are satisfied, and the marginal utility of water will have become zero. As the amount of water is thus increased, the utility falls according to the curved line *hi*, till finally it touches the base line, where the marginal utility of the water vanishes.

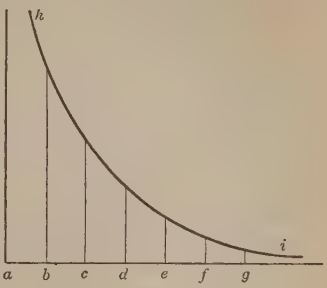

FIG. 1

The Margin of Consumption. — Consumers continually balance against each other the satisfactions to be obtained from two or more possible purchases. Frequently this process is more or less unconscious and we simply buy the thing which we want more than other things. This process tends to keep our different unsatisfied wants in a state of approximate equal intensity. We apportion our expenditure so that our money will "go as far as possible"; that is, so that it will provide those things that have the strongest present appeal to us. Every person thus has a *margin of consump-*

tion, which is measured by the utility obtained in return for the final or marginal dollar expended for any one of the things that he consumes. If he unwisely expends too much for any one thing, his more important unsatisfied wants for other things press upon him urgently, and he is likely to try to restore the balance or equilibrium in his expenditures, or, in other words, to bring his margin of consumption into alignment. An individual's margin of consumption depends primarily on his income, but also on his tastes and habits, and the relative emphasis which he places upon his present and his future wants.

Future Wants. — Not all of the goods for which we strive are wanted for present consumption. We know that we shall have needs next month or next year, and we attempt to make some preparation for them. These more remote needs, it is true, if they fall very far beyond the immediate future, appeal to us less vividly than if they were present. Nevertheless, we attach a present importance to them and we grade them, and they enter into our calculations when we spend money, thus modifying our margins of consumption. The more adequately we provide for the future, the more, as a matter of course, will we be forced to curtail our present consumption. Providing for the future or *saving* thus forces us to draw in and restrict, *i.e.* to *raise*, our present margin of consumption. Most men probably have foresight enough to make some small degree of preparation for the future. It is easy to foresee certain imperative needs that will be encountered by one's self or by one's family. These will bulk larger even in present estimation than some of the less important wants of the moment. While it thus appears that a certain amount of saving would be done without payment, it is a matter of human experience that if saving is to be carried beyond a certain point, it must be given some special premium or compensation. The price paid for saving is *interest*. This enters into our balancing of the future against the present. If one can easily get 5 per cent interest on savings, it is clear that in determining one's margin of consumption a dollar's worth of present goods should be balanced against a dollar and five cents' worth available for consumption a year from today.

Subjective Value. — The balancing of prospective purchases or satisfactions which maintains the margin of consumption, leads to the concept of *subjective value*. The subjective value of a good is not, of course, a definitely measurable objective quality of the good, like weight or extension. It is, as the word "subjective" implies, purely psychological, and may be different for different persons. It is, moreover, *relative*. The subjective valuation of things always implies the choosing of some things rather than others. In other words, it involves a determination of their comparative importance for one's own purposes. More formally stated, *the subjective value of a good to any person is that person's estimate of the importance of possessing that good as compared with the importance of possessing other goods.*

But we do not value things in the abstract, or in indefinite quantities. In buying coal or sugar or oranges we do not have to confront the alternatives of either doing entirely without such commodities or acquiring an indefinitely large supply. If we decide to buy at all, we may buy as little as we please. Our choices, in practice, resolve themselves into questions of *more or less*. Even in the case of an indivisible good — an automobile, for example — one may choose between having more or less of certain desirable qualities, such as size, or power, or attractive finish. And it is evident that whether the importance that we attach to the possession of an additional unit of a certain good is greater or less than the importance that we attach to an additional unit of some other good will depend, very largely, upon the extent to which our wants for each of the goods in question are satisfied without the possession of the additional unit. Put in other words, the question is: Which good has the higher marginal utility?

Subjective value, then, involves a balancing or comparison of marginal utilities. In fact, we may say that *the subjective value of a good is the expression of its relative marginal utility*. In this statement the word *relative* is used in order to emphasize the element of comparison or choice.

The Subjective Value of a Stock of Goods. — It should be carefully noted that marginal utility tells us nothing about the total subjective value of one's whole stock of the commodity.

It refers solely to the present value of an additional unit, or the sacrifice that would be occasioned by the loss of a unit. We cannot get the total subjective value of a stock of goods by multiplying the marginal utility by the number of units, even though they be all alike. The very term "marginal" tells us that the conception implies successive additions, and the present importance of one unit tells us nothing definite about the importance of the other units. If we wish to ascertain the total subjective value of a stock of a commodity, we have simply to treat it as one large unit, and ask what would be lost if it were taken away. By this test all air would be found to have an immeasurable utility, at the same time that the subjective value of an additional cubic foot would be nothing. Thus it will be seen that the cause of subjective value is utility under a condition of scarcity; that is, such a limitation of the supply that not all wants can be satisfied.

The Dominance of Exchange. — Subjective value takes us only to the threshold of the subject. If every family produced all the goods needed to supply the wants of its members, most of the problems which today confront economic science would not exist. Most of the world's workers are, however, contributing their services either directly or indirectly (through the production of goods) toward the satisfaction of the wants of others. One's economic well-being today depends primarily on two things: the money income which can be got from others in return for one's services or for the use of one's land or capital, and the amount of things that can be bought with this money income. The federal census of 1920 showed that over 90 per cent of the men over twenty years old and about 20 per cent of the women of corresponding age were employed in money-making occupations; and this number does not include those landlords and capitalists whose income was derived entirely from their investments. The work of the housewife and the services of friendship embody utility, that is, satisfy human wants, just as do money-making activities, but they are not reported in terms of dollars and cents. The production of wealth is in these days mostly "for the market," and wants are satisfied very largely by goods obtained from the market. In the vast interlocking system of modern economic life most goods get

from those who produce them to those who use them by the processes of exchange.

The Meaning and Significance of Price. — It rarely happens nowadays that goods are directly exchanged for other goods. Goods are usually sold for money, and the seller uses the money in the purchase of other goods. *The amount of money for which a unit of a given commodity exchanges is the price of that commodity.* Since prices vary, when we wish to name the actual price of any commodity we must specify the price in a given market at a given time, and, if we wish to be exact, the credit and other terms under which it is sold.

From this simple and familiar concept of price there has been developed the more abstract and general concept of *exchange value.* If a hat sells for two dollars, a pair of shoes for four dollars, and a pocket knife for fifty cents, we say that the exchange value of the hat is half that of the pair of shoes and four times that of the knife. It thus comes about that we *impute or attribute exchange values to goods in accordance with their relative potency in exchange,* as shown by the prices at which they sell. In this way values come to be thought of as *magnitudes.* Just as weight and volume are physical magnitudes by which we express the relative heaviness and the relative bulk of different objects, so exchange values are economic magnitudes or, more specifically, exchange magnitudes.

Exchange value is a relative or comparative magnitude, and there is no practical way of expressing or measuring the exchange value of a good except in terms of its command over other goods or services. In such a measurement exchange value can be expressed either as a *quantity* or as a *ratio.* We can say (1) that the value of a pair of shoes is that of eight knives or (2) that the value of the shoes is to the value of a knife as eight is to one. We thus express the exchange value of any good either by stating the quantity of other goods that can be obtained for it or by stating its ratio of exchange with other goods. Price may be viewed as a statement or expression of exchange value in terms of money. To say that the price of a pair of shoes is six dollars amounts to saying that the value of the pair of shoes is six times the value of a dollar. Of these two equivalent forms of statement the first is to be pre-

ferred. The money price of a thing describes a single concrete fact. The exchange value of a thing, as we have seen, is a more abstract concept. A moment's reflection will show that the exchange value of a commodity depends not only upon its own price, but upon the prices of all other commodities.

The Marginal Utility of Money. — When we deal with prices — money values — we employ a unit of measurement which means different things to different people. The marginal utility of money to a person diminishes as the amount at his disposal for consumptive expenditures increases.

Upon this simple fact a number of important things depend. It explains, for instance, why gambling is economically unsound even when honestly conducted. One hundred dollars lost deprives the gambler of more utility than he derives from winnings of one hundred dollars, although this statement should be modified by an allowance for the direct pleasure and pain from gambling itself. For the same reason insurance (if cheaply and efficiently provided) rests upon a sound economic basis. One hundred dollars received on an occasion of loss brings to the insured more utility than he sacrificed in one hundred dollars of premiums paid out in times of prosperity. And the revolutionary changes in taxation which have marked the past hundred years are in considerable part explained by growing appreciation of the disparate utility of money to the rich and the poor. For centuries taxes bore more heavily upon the poor than the rich. Later, increasing use was made of direct taxes levied at a proportional rate; while recent decades have brought a striking development of progressive taxation.

At the present time legislators guess wildly in adopting rates for progressive incomes and inheritance taxes, and the wide differences in practice and opinion reveal the deep need for scientific information on this subject. Bernoulli,[1] the eminent physicist and mathematician (1700–1782) suggested that after deduction has been made for the necessaries of life the satisfaction or utility

[1] As interpreted by Marshall, *Principles of Economics* (The Macmillan Co., London, 1920, 8th ed.), Bk. III, Chap. VI, p. 135 and Notes VIII and IX, Mathematical Appendix.

derived from the remainder of the fortune or income varies in such a way that equal amounts are added by equal percentages of the income — and conversely for reductions of income or fortune. This would lead, if an exemption be made for the necessaries of life, to proportional taxation on the remainder of the income or fortune. The spread of progressive taxation in recent years indicates that modern legislators believe that the utility or subjective value of money to average or typical individuals diminishes more rapidly with the increase of the income than Bernoulli supposed.

In the opinion of Professor Irving Fisher, the marginal utility of money is measurable conceivably; and he has recently proposed for discussion and criticism a method for measuring it statistically in the case of average or typical families.[2] Whether we shall ever be able to measure the variation of marginal utility between typical families from time to time or place to place is doubtful. But there can be no doubt of the deep scientific and practical need for such measurements; and no valid objection arises from the fact that the total utilities are immeasurable and incommensurable. At the origin, wants and want satisfactions are incommensurable; but at the margin they are not incommensurable. This has been brought out in connection with the margin of consumption, where it was seen that our dollars are rationed among the different commodities or expenditures in such a way that the utility derived from the marginal purchase in each line is equal. At the margin, want satisfactions are commensurable. To any individual at any given time, the dollar offers a practical unit of marginal utility or subjective value. In tax and other legislation we are forced to bridge the gap between typical or average individuals. This problem has to be dealt with in one way or another. It can be handled better on the basis of systematic scientific study than on the basis of guess work.

Sacrifice and Cost. — The price or value of a good is dependent upon (*i.e.* influenced by) the costs and expenses involved in producing or acquiring it. " The backbone of the science of economics

[2] Fisher, Irving, "A Statistical Method for Measuring 'Marginal Utility,'" in *Economic Essays in Honor of John Bates Clark* (The Macmillan Co., New York, 1927), pp. 157–193.

is the balancing of value against cost," as Professor J. M. Clark has cogently said.[3] These costs are subjective and objective, and in a general way correspond to utility, subjective value, exchange value, and price.

Over against the enjoyment resulting from wealth consumption lies the discomfort of wealth production. Enjoyment, we have seen, grows less and less as the consumption of a particular good is continued, but the irksomeness of producing it, on the contrary, grows greater and greater the longer labor is continued. Let us take the case of Robinson Crusoe picking berries. We may represent the diminishing utility of the berries to him by the line *ab* (Fig. 2), and the increasing irksomeness of picking them by the line *cd*. He would not pick more than *Ox*, because the *x*th berry costs him just as much trouble or annoyance as it yields him pleasure, and any further continuance of gathering fruit would result in an excess of pain. The degree of utility represented by *mx*, then, expresses, at the moment that the *x*th berry is picked and eaten, both the marginal utility and the marginal disutility, or marginal pain or sacrifice.

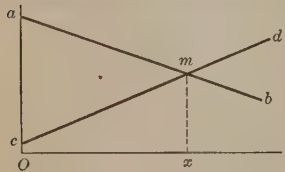

FIG. 2

Each of us has frequently made such comparisons — balancing the utility of further consumption against the disutility of further production. Many persons who are working eight or ten hours a day could increase their income somewhat by working twelve hours, but the additional discomfort is greater in their estimation than the additional fruits of their labor would be worth. To be sure, much of our economic action goes on unconsciously. We accept a position, comparing its advantages and its disadvantages in a general way with those of other openings, but once we enter upon the work, we accept the daily grind as inevitable, and, in spending our income, think not of the sacrifices it has cost us, but simply of how we can get the maximum satisfaction from it.

[3] J. M. Clark, *The Economics of Overhead Costs* (University of Chicago Press, Chicago, Ill., 1923), p. 17.

Cost of Production, Expense of Production, and Opportunity Cost. — The preceding paragraphs explain one important sense in which the term "cost of production" is used, *i.e.* (1) the *subjective cost* of irksome labor or reluctant waiting. But (2) the phrase is also commonly used to refer to the *expense of production*, that is, the amount of money spent in producing a commodity. (3) A third meaning is also found, which has been termed *opportunity cost*. Let us say that a person is confronted by the alternative of engaging in either of two occupations. He may become a lawyer or he may become a merchant, but he cannot be both. If he chooses to be a lawyer, he sacrifices his opportunity of being a merchant.

Cost in this sense is sometimes called "alternative cost," or "displacement cost." This is not an ultimate cost, but it probably has a more direct and more important influence upon most of our economic choices and decisions than has any other kind of cost. In the actual conduct of life opportunity cost and direct cost are generally inextricably blended. The increasing irksomeness of Crusoe's task of picking berries, for example, may be deemed to have been caused in large measure by the pressure of other demands upon his time. We haven't time enough to do all the things we should like to do, and so we have to apportion our time according as we think that one use of it or another is the more important. And, in general, we try so to apportion our time that the fruits of the last or marginal increment of time devoted to any one purpose shall have no more or no less utility than those of the marginal unit of time devoted to any other purpose.

Taking "leisure" as a collective name for all of the non-economic uses of time, that is, for all uses of time for other than productive or money-making purposes, it appears clearly that a worker with free command of his time will carry his chosen line of effort up to the point (or margin) where leisure attracts him as much as the products of his exertion, or, in modern economic life, as the things he can acquire with the money he earns. As in the expenditure of money, so in the expenditure of time and effort: we tend to bring our expenditures up to margins where utilities gained and utilities sacrificed or foregone are equal.

There are many distinct classes of cost and expense and these are described in a great variety of terms: Operating expenses and fixed charges, differential and residual costs, variable and constant costs, incurred and avoidable costs, prime and supplementary costs, sunk costs, joint costs, manufacturing and selling expenses, and others. This subtle use of the cost concept arises from the fact that the meaning of "cost" varies with the particular inquiry or purpose in hand, just as the word "value" in ordinary usage varies with the purpose of the valuation or appraisal. The only safe way is to make clear in each important discussion what variety of cost or expense is intended.

(See References at Close of Chapter XII.)

CHAPTER X

VALUE AND PRICE (*Continued*)

The Free Competitive Market. — We enter here upon an analysis of the essential economic forces which determine prices. In its practical details this subject is infinitely complex. We can present only the general principles, leaving the reader to make allowances and modifications for the "friction of the market," the varying terms of sale, unusual trade customs, and pricing practices which in particular markets at particular times are often important and sometimes controlling. The first problem is to get behind the mass of distracting detail to the underlying forces at work.

We postpone for later treatment the consideration of the effects of monopoly and restraint of trade. It is conceivable that prices might be fixed by public authority, as some of them were during the World War. Prices of important commodities could also be controlled by monopolists. It is possible to imagine a condition of society in which custom should have such power that prices, once established, would seldom be changed. Yet another imaginable possibility is a régime of perfect competition in which every man would be left free to buy and sell as he pleased at such prices as he could get. All of these different systems of price-making are in actual operation today. The first three, where public authority, monopoly and custom are the controlling factors, play a part in determining the prices at which goods are actually exchanged today; but the dominant factor is the fourth one mentioned, namely, the free competition of the market.

In this connection we mean by the market, not any particular area where things are bought and sold, but *the general field within which the forces determining the price of a particular commodity operate*. For many perishable, bulky, or even immovable commodities the market is distinctly local; for great staple commodities

like wheat and cotton the market is a world market. The prices of wheat at Chicago, Liverpool, and New York are so linked together that it is impossible for them to differ widely for any considerable time by more than the expense of transport. So-called "international securities," such as government bonds, and the stocks and bonds of certain great corporations afford even a better example of goods for which there is a world market and a world price. In the great wholesale markets of today, as has been pointed out by Professor J. R. Commons, "the physical goods are not actually brought to the market place, but only the title, or, at least, the legal control of the goods, is transferred from seller to buyer. The physical designation of the goods is made accurate by the three stipulations of a standardized product, a specified place of delivery, and a specified time of delivery. Then the physical control of the goods goes along in the hands of the agents, laborers, railway employees and so on, who actually handle the goods. . . ." [1]

The perfect market would be free, *i.e.* free from monopoly or collusive agreements between buyers and sellers. It would be easily accessible to buyers and sellers either in person or through their brokers or authorized agents; and it would be public in the sense that all interested parties would have prompt knowledge of the prices which were being paid by others. But these conditions are ideal and are seldom satisfied. They are most nearly approximated on the great stock and produce exchanges.

Supply and Demand. — On the market it has become axiomatic to say prices are determined by supply and demand. Rightly interpreted, this axiom is a sound and useful starting point for the analysis of prices. It is only a starting point, however, and we must pass on immediately to learn as much as we can about the nature and the conditions which control supply and demand. And the word "determined" must be interpreted properly. Most economic functions are at the same time cause and effect, determined and determining. Producers do not usually throw a "supply" of goods unreservedly on the market, accepting any

[1] John R. Commons, "Delivered Price Practice in the Steel Market," *The American Economic Review* (1924), Vol. XIV, p. 518.

price that can be got for them; nor do consumers generally demand definite amounts of goods, without reference to the prices asked for them. Supply and demand do determine prices; but *prices also are among the factors determining supply and demand.*

Nature of Demand. — The study of demand is, to a great extent, a study of buyers' impulses and actions. In the case of consumers' goods, these are largely controlled by factors already discussed in connection with diminishing utility, the margin of consumption, and household budgets. In general, consumers' demand is mainly a resultant of the combined subjective valuations of different consumers as modified by the amount of income at their disposal:

(1) Mere desire for a commodity is not demand for it. The desire of the poor man for the counterpart of his wealthy neighbor's automobile is in no sense demand. *Effective demand* is sometimes defined as desire coupled with the ability to pay. This definition may be accepted if we understand clearly that desire must be more than a vague preference or wish: it must be *intense* enough to lead to purchase.

(2) Effective demand may be viewed in its physical aspects as the rate of consumption of physical goods by consumers, or in its pecuniary aspects as a flow of purchasing power into the market from the consumers towards goods.

(3) Total demand is therefore conditioned by the amount of money income received by consumers. Statistical investigations reveal a close correspondence, for instance, between the money incomes of factory workers and the sales of department stores.

(4) Since the larger number of consumers are those with small incomes, or in other words, since the number of consumers is susceptible of increase, it follows that the lower the price placed upon a particular good, the larger the number of consumers who are able to buy it and, with some exceptions, the larger the consumption of that good.

(5) Although wants in general are insatiable, any particular want can be satiated. In real life, however, there are relatively few wants that are quickly satiated. For the most part, consumers continue to buy a certain kind of good until the want for an addi-

tional amount of this good is less than the want for some other good. Each of us, by buying the things he wants more than he wants other things, tends to keep the subjective values of the last or marginal dollar's worths of all the different kinds of goods he consumes equal to one another.

(6) As our tastes and purposes change we alter our scheme of expenditures accordingly; but always so that our marginal dollar's worths are kept, as it were, in equilibrium. But even if our desires were constant, changes in prices would in themselves effect continual alterations in the proportions of the different things that make up our purchases. The various dollar's worths become larger or smaller and acquire larger or smaller subjective values. If the price of a commodity decreases to such an extent that an additional dollar's worth gains a subjective value greater than that of other dollar's worths, we normally purchase it. If the price rises, we normally curtail our expenditures for this particular commodity, and may even, under some circumstances, become sellers of it (as in the case of the householder who has bought a large supply of coal at ten dollars a ton, and who, when the price rises to fifteen dollars, is willing to sell part of it).

(7) These considerations are of great importance in regard to the purchase of those commodities which are subject to styles, fancy, whims, and vagaries of consumers. When women relinquished the custom of using fancy braids upon their dresses, declines in sales of these braids could not be wholly compensated for by decreases in the price. Similarly, the sales of wagons and carriages have fallen off in the last twenty years despite reductions in price. The American people seem to be more receptive to new ideas than the populations of the older European civilization. But even with this modification it is still quite true that subjective valuations of consumers usually change only gradually after an intensive advertising or educational process.

The Demand Curve. — Imagine the case of an isolated community in which wood is used as a fuel. In Figure 1 let distances measured from O along the horizontal line OX represent different amounts of wood, while distances measured vertically from the line OX represent prices. Assuming that the conditions of demand

were as represented in the diagram, if the price of wood were MP dollars a cord, OM cords of wood would be bought. If MP represents a relatively high price for wood, this might mean that many families would choose to go without wood, using other kinds of fuel instead. Others would be content with a scanty supply. If, however, the price were reduced to $M'P'$ dollars per cord, some of the families who would have refused to buy at the higher price would purchase wood, while others would increase their purchases, so that OM' cords would be bought. Similarly, at the price $M''P''$, the amount bought would be OM'' cords. Other possible prices might be indicated on the diagram, so that, in general, the curve DD' (which we may call the *demand schedule or curve*) represents the relation between price and the amount purchased. More definitely, the demand curve represents the amount of a given commodity the buyers in a given market will take at each of all possible prices.

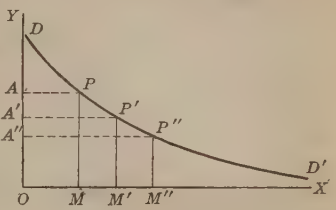

FIG. 1

The Elasticity of Demand. — By the elasticity of demand we mean the *extent* to which the amounts purchased vary with changes in price. In every family in poor or moderate circumstances the housewife carefully economizes in the use of eggs during periods when they are high in price, using them more freely when the price is lower. The demand for eggs is therefore *elastic*. Relatively *inelastic* are the demands of most families for such things as flour and salt. While the demand for sugar was in the past regarded as elastic, recent studies of the American consumption suggest that it has now become quite inelastic. These studies indicate that "under normal conditions, an increase of 1 per cent in the price of sugar is associated with a decrease in consumption of only 0.5 of 1 per cent." [2]

[2] H. Schultz, *Statistical Laws of Demand and Supply, with Special Application to Sugar* (University of Chicago Press, Chicago, 1928), p. 92.

Speaking diagrammatically, it will usually happen that the elasticity of demand is different for different portions of the demand curve. The demand for bread, for example, would probably be much more elastic at very high prices than at very low prices. The demand for salt, on the contrary, would probably be less elastic at prices so high that it would be used only as a food than at prices low enough to permit its use (as at present) for various industrial purposes. Without giving further concrete examples, the following propositions respecting elasticity of demand may be stated: (1) Demand for necessities is in general less elastic than demand for luxuries. (2) Demand for commodities the use of which constitutes a habit is less elastic than demand for commodities the use of which is generally a matter of conscious decision. (3) The more adequate the substitutes for a particular commodity, the more elastic will be the demand for it. (4) The demand of persons of large income is less elastic than that of persons in poor or moderate circumstances. (5) A corollary of proposition *four* is that the higher the general level of well-being in a community, the less elastic will be the demand for most commodities. These propositions relate only to the character of the demand for some one particular commodity, taken by itself. There is no reason why the demand of wealthy persons for "goods in general" should be more or less elastic than that of poorer persons. But because the consumption of the wealthy person is more varied and more extensive, he will be able to pay higher prices for a given commodity without cutting so deeply into his consumption of any other one commodity.

The elasticity of the demand for a commodity may be determined by observing the effect of changes in its price upon the *total amount* buyers will pay for it. *Unitary* elasticity of demand obtains when an increase or decrease in its price per unit changes the quantity sold just enough so that its total selling value, that is to say, the aggregate price paid for it, is unchanged. When the total selling value of a commodity increases as its price per unit decreases, the demand for it may properly be said to be elastic.

The rectangle $OMPA$, in Figure 1, represents the total amount buyers pay for wood when the price is MP. If the demand for

wood is distinctly inelastic, this total value will be less when the price is low than when the price is high. At the lower price less money will be expended for this particular commodity and more money will be available for other uses. If, on the other hand, the relations between price and demand are such that the rectangle $OM'P'A'$ is larger than the rectangle $OMPA$, a drop in price from MP to $M'P'$ will result in a curtailing of expenditures for other things. This might involve only a decreased use of direct substitutes, such as coal in place of wood; generally, however, it would mean a diminished consumption of a number of other things. But this is a gain, not a loss. For the lower price would not be accompanied by the purchase of a larger quantity, if the additional purchases did not satisfy more intense wants than other things that might have been purchased with the money. Larger "dollar's worths" will have been substituted for smaller ones.

In this way the demand for any one commodity is affected by changes in the prices of other commodities. The competition of the market thus embraces not only the buying and selling of one commodity, but also the buying and selling of all commodities. In this sense the wood dealers compete with the grocers and the tailors, as well as with the coal dealers and with each other.

Consumers' Surplus. — Attention was called in the chapter on consumption to the great theoretical and practical importance of the surplus of comfort or satisfaction which economic progress has brought to the consumer. Attempts have been made to identify this surplus in the case of particular commodities and to measure it. Refer back to Figure 1 and assume that the market price is $M'P'$ and the quantity purchased OM'. Those buyers who would have bought less or none if the price exceeded $M'P'$ may be called *marginal buyers*. They are usually comparatively few in number. Most of the buyers would have paid higher prices rather than go without wood. All these supra-marginal buyers obtain a *surplus of utility over cost* which has been called *consumers' rent* or *consumers' surplus*.

Some writers have attempted to measure this in money from the demand curve. Thus when the price is $M'P'$ they describe consumers' surplus as the area $A'P'D$ inclosed between the line

$A'P'$ and the curve $P'D$. This is inaccurate for many reasons: (*a*) The price that would be paid for a small amount of an absolute necessity is indefinitely high. The demand curve cannot be plotted with accuracy at its beginning. It does not cut the axis OY at D. (*b*) The satisfaction of additional wants which a lower price makes possible may make the more important wants less intense. A man might be willing to give ten dollars for a cord of wood in order that at least one room in his house could be heated during the winter. He might also be willing to give seven dollars a cord for two cords, so as to heat two rooms; but the heating of the second room might render the heating of the first room less important to him. He might not be willing, for example, to give ten dollars plus seven dollars in order to have the two rooms heated. (*c*) Utility itself is to a large extent affected by price. So far as our purchases satisfy what has been called the desire for distinction, or represent what Thorstein Veblen has termed "conspicuous consumption" a lowering of the price of a commodity would lessen its utility to us. The successful production of artificial diamonds at a low cost would lessen the desire which most people have for natural ones. In general, we must say that even if we had complete statistics of the actual relation of prices to demand, consumers' surplus would still be an incommensurable thing. It is, nevertheless, a real thing, and is especially significant as constituting one of the differences between real income and money incomes. (*d*) It should be noted that consumers' surplus relates only to the consumption of a particular commodity taken by itself. The amount which we are willing to spend in the purchase of any one commodity depends not only on the price of that commodity, but also on the prices of the other commodities that make up our purchases. The surpluses which a consumer gets in his different lines of consumption cannot be added together to form a total. I might, for example, be willing to pay as much as four dollars for a hat that I can get for two dollars. And if I pay only two dollars for the hat I might be willing to pay as much as six dollars for a pair of shoes that I can get for four dollars. But it does not follow that I should be willing to pay four dollars for the hat *and* six dollars for the shoes.

The Nature of Supply. — The amount of goods that will be supplied in a given market at a given time depends, like the amount demanded, on the price. "Forced sales," in which goods are offered for whatever can be got for them, form about the only important exception.

The effect of price on supply varies, however, according to the length of time that is taken into consideration. The work that is being done today in the extension of old factories and the building of new ones, the construction of railways, the taking up of new land, is based on estimates of *future* prices, the present prices of agricultural and manufactured products and of railway transport being of significance only so far as they indicate what future prices will be. The merchant's stock in trade is bought on an estimate of future business conditions; the amount of land the farmer allots to wheat and corn, respectively, depends on his estimate of the relative prices the two will bring after the harvest. In a similar way the amounts of goods that can be supplied to the market today are limited by the estimates which business men and farmers have made *in the past* of the prices which buyers are willing to pay today. And the amount of the capital now available for the production of things that will satisfy present wants was partially determined by conditions which existed still farther back in the past, and so on in an indefinitely receding series.

The amount of goods available for the market of today is thus determined both by past estimates of present conditions and by present estimates of future conditions. Every seller has the option of selling at the present price or of waiting for possible higher future prices — an option which is limited only by the perishability of his goods and the urgency of his need for money. And the most urgent need for money does not necessarily force an immediate sale if his opinion as to the future value of his goods is reasonable, for in this case it is usually easy to borrow money on the strength of the marketable value of the goods.

The Supply Curve. — In the analysis of the conditions of supply existing *in a particular market at a particular time* we do not have to take account of the limitations imposed by the forms which productive efforts have taken in the past. At any given time a

certain definite amount of a commodity is available for the market: this forms what may be called the *potential supply*. The proportion of this potential supply that sellers will be willing to part with at a particular time will depend primarily on the prices they can get. If the price of a unit of a commodity is $M'P'$ (Fig. 2), the sellers will be willing to sell a certain number of units of it, which may be represented by OM'. If the price were as low as MP, however, some sellers would prefer to wait for higher prices, the amount thus withheld from the market being represented by MM'. At the price $M''P''$, however, an additional supply ($M'M''$) of the commodity would be forthcoming from sellers who were not tempted by the price $M'P'$. In general, the supply curve SS' represents the relations between price and the amount that will be supplied in a particular market and at a particular time.

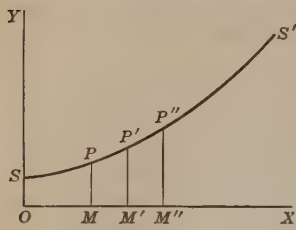

FIG. 2

The Determination of Price. — The foregoing discussion of the nature of demand and of supply makes it possible to advance another step in our analysis of the determination of price, by asking ourselves what will be the result of the simultaneous operation of the forces of demand and supply. This condition is represented graphically in Figure 3, where the demand curve and supply curve are combined in one diagram. If the curve DD' represents the potential demand in a particular market at a particular time, and the curve SS' represents the potential supply, the price which would be fixed by the free working of competitive forces would be MP, located at the point where the two curves cross. At

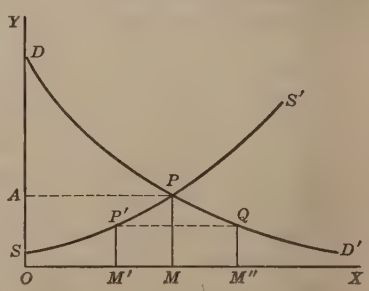

FIG. 3

this point demand and supply are equal, both being represented by OM. It is impossible that the price should be fixed at any other point, $M'P'$, for example. For if $M''Q$ be drawn so as to equal $M'P'$, it will be evident that at this price OM'' units will be demanded, while only OM' units will be supplied. Most of the buyers, however, are willing to pay more than $M'P'$ if necessary, so that in order to secure their share they will bid the price up until an equilibrium is reached. This is what John Stuart Mill meant when he said that "value always adjusts itself in such a manner that the demand is equal to the supply," — a statement which has often been misinterpreted, and consequently unjustifiably criticized.

The prices for which goods are sold in a competitive market are thus the outcome or resultant of the individual valuations of all who buy and sell in the market. Each buyer or seller, taken by himself, affects only inappreciably the price at which he buys or sells. All that he can do is to buy or sell or refuse to buy or sell, or to buy or sell more or less. For each individual trader the market price is something beyond his own control. And yet each has a part in that collective supply and demand which makes the price whatever it happens to be.

Producers' Surplus. — Just as the area APD (Fig. 3) has sometimes been considered, not altogether accurately, to represent a "Consumers' Surplus" (of utility over costs), so the area SPA has been considered to correspond to what has been called "Producers' Surplus" or "Sellers' Gains." This surplus should not be thought of as corresponding to the actual profits of the sellers; that is, as being in any way a surplus of receipts over and above the expenses of production. That part of the supply which had been *produced* at the smallest expense is not necessarily the part which its owners would be willing to *sell* at the lowest price. It cannot be too strongly emphasized that the analysis of demand and supply thus far presented relates only to the conditions existing in a particular market *at a particular time*. All that we can say is that when OM units are sold at the price of MP per unit, the total receipts of the sellers are represented by the rectangle $OMPA$; while the area $OMPS$ represents what they would have been will-

ing to sell the same amount of goods for, had they not been able to get a larger return. There is, as we shall see, a relation between the prices of things and the expense of producing them, when a considerable period of time is taken into consideration. At any given time, however, sellers are mainly governed by the relative profitableness of selling at existing prices or waiting for higher ones. The only kind of surplus which the area SPA represents is an intangible, hypothetical thing, — the difference between actual receipts and the amount which would have been received if each seller had sold each portion of his supply for the minimum price he would have been willing to take for that portion.

Prices in the Long Run. Normal Price. — Up to this point the discussion has dealt with the price of reproducible consumers' goods in a competitive market at a particular time. We now pass on to an examination of the operation of certain slowly acting movements and tendencies. We still confine the discussion, however, to competitive prices of consumers' goods. Questions relating to the determination of the prices of producers' and capital goods, of the price of labor (wages), the price and rent of land, are reserved for later treatment.

The potential or available supply of present goods, we have already seen, is limited by conditions set by past industry. The amounts of different kinds of marketable goods ready for present use depend upon the direction the work of production has taken in the past. But why has production taken one direction rather than another? What, *in the long run*, is the relation between supply and price?

The most important relation is found in the intimate connection between the price of a commodity and the expense of producing it. In the long run *the supply curve tends to become an expense or cost of production curve* (including, of course, selling or marketing expense). Demand, naturally, plays its part. It remains a co-star in the play. Price is still a resultant of demand and supply, using " supply " in this new and more fundamental sense. But assuming any particular demand curve or demand situation, price will be most influenced by and will tend to approach in the long run, the expense of producing, by those who may be called the marginal

producers, a unit of the commodity in question. By "expense of production" we mean the total money cost of production, including not only fixed but variable expenses as distinguished in the next chapter. This important tendency is summarized in the traditional maxim or definition that *market price constantly tends to approach the normal price, which is defined as the expense of producing a unit of the commodity in question.*

Marginal Producers. — The old maxim or definition can be made more definite by answering the question: Whose expense of production is to be considered, that of the low-cost producers or that of the high-cost producers? We must ask this question because it has been shown by a number of recent investigations of producers' expenses and profits that, *as a normal or usual condition of industry*, unit expenses vary over a wide range and some producers will be found to be losing money. The normal group of producers, like a normal community of people, contains its infants, and its superannuated, sick and infirm members. These high-cost producers lose money; but they help to augment the supply and thus exert some influence, though not the predominant one, upon market price. The predominant influence is exerted by *the "marginal producers," meaning by that term those producers who will withdraw from production or materially reduce their production unless prices in the long run are high enough to cover their expenses of production including minimum or necessary profits.*

Thus the "marginal producers" do not consist exclusively or even in important part of the losers, whose expense of production at any given time is the highest. They do not exert the greatest influence on price because they are comparatively insensitive to price. The losers consist of the new or "infant industries" which are fighting their way up, expecting losses in the developmental stage; and of the moribund who are constantly dropping out regardless of ordinary movements in price and who will be replaced in turn by a similar group of moribund or decadent concerns. Nor, on the other hand, are the lowest-cost producers often the most mobile and sensitive, because they usually enjoy some differential advantage in the particular industry in question which would be lost if they transferred their capital to another line of produc-

tion. The marginal producers are found principally among those who range, in the order of their unit-costs or expenses, between the lower 20 per cent and the upper 10 per cent. Their costs or expenses constitute the "*bulk line costs*." These, as a rule, are the most sensitive and mobile producers. They are often called the "representative firms or concerns." It is not necessary to locate them with precision, nor accurately to determine the limits or ranges of their unit costs; but it is important to know their general position, since not only a proper understanding of the law of normal prices but the solution of many important practical problems in taxation, tariff adjustment, price, and profit regulation, turns upon the costs or expenses of that group of producers who exert the preponderant influence upon prices.

Normal price then approximates the highest unit-expense of production among that group of vigorous "adult" producers who will materially alter their output in obedience to price-variations. The reason for this is found chiefly in another fundamental tendency or characteristic of the competitive economy in which we live.

The Tendency toward Equality of Advantage in Different Fields of Industry. — The dominant motive that guides farmers and business men in their productive undertakings is the desire for money profits. If it were always an easy matter for business men to transfer their interests and energies from one field of production to another, and if capital and labor could likewise be transferred promptly and freely from one undertaking to another, profits in one competitive industry could not be much higher for any length of time than in other competitive industries. Managerial ability, labor, and capital would gravitate always toward those employments which promised the greatest profits. Production in these more lucrative fields would thereby be increased. But, the general conditions of demand being unchanged, the increased output could not find buyers except at a lower price. And the reduction of price would be attended by a shrinkage of profits. In the meanwhile, production would have been curtailed in those employments from which entrepreneurs had withdrawn labor and capital. Again, the conditions of demand being unchanged, prices would be

affected, but in the case of these less profitable classes of productive undertakings, with their diminished output, the prices of the products would *increase*. Such industries, therefore, would in their turn become increasingly profitable. The effect would be a continual movement toward *equality of advantage in different fields of industry*.

This controlling tendency toward an equal level of advantage in different industrial employments would not necessarily be accompanied by a tendency toward an equal level of profits *as between different individual firms* in any one given industrial field. In fact, we may be quite sure that there would be substantial differences. Making full allowance, however, for the continued existence of substantial differences in the earnings of different business firms, we may nevertheless conclude that the relation between the price paid for the products of any one industry and the expense of producing those products could not long remain greatly out of line with the general relation between prices and expenses of production existing in other industries.

We have made some assumptions that do not correspond to the condition of actual business. Generally laborers cannot change from one industry to a wholly different one without losing some of the advantages of their specialized skill. Many sorts of capital goods are so highly specialized that they are useless outside of certain particular industries. The entrepreneur himself is likely to be better equipped in special knowledge and experience for the conduct of one type of business undertaking than for another. Employers can rarely move either labor and capital or themselves from one place to another without some loss of efficiency.

All of these conditioning circumstances — and others like them — must be taken into account. But, on the other hand, there are always many active business men who are watching for the most inviting business opportunities; many business concerns are able to discard types of products that become unprofitable and to expand in new and more promising directions; not all labor is highly specialized; there are always some workmen whom the prospect of higher wages will tempt away into other industries and other localities; the members of a certain number of highly skilled trades

can find employment in any one of a large variety of different industries; there are some capital goods which are not highly specialized; most of all, there is a constant flow of new blood into business and industry just as there is a constant flow of new and free capital in the form of savings that can be invested in the production of whatever forms of capital goods promise the greatest returns. Facts like these are enough to give substantial meaning and significance to the tendency toward the equalization of advantages in different industrial fields. If the price of wheat exceeds the cost of growing it by more than the excess of the price of corn over its expense of production, sensible farmers will raise more wheat and less corn. The result normally will be higher prices for corn and lower prices for wheat. Changes of precisely the same type are continually being brought about in all of the different fields of industrial activity.

In a growing and expanding economic life, such as prevails in the United States today, competition may exercise its leveling effect upon the profitableness of different industries, even if there are comparatively few instances in which particular industries actually *recede*, that is, in which capital and labor are actually withdrawn from them. The leveling tendency of competition is effected more largely through differences in the *rates of growth* of different industries. An industry may recede as compared with other industries without going backward or shrinking in any absolute sense. If an industry grows too rapidly, its profits will ultimately decline. Then business men will be attracted to other industries which perhaps had been lagging behind for the time being.

Minimum or Necessary Profits Included in the Expenses of Production. — We have just seen that in any continuing industry the opportunities for profit-making cannot long be substantially less attractive than in other fields. We must now take account of a further fact, namely, that industry *as a whole* must afford profits, or the expectation of profits, high enough to enable and to induce men to establish and to continue in business undertakings.

The amount or rate of profits needed to induce men to forego other and possibly surer ways of getting a living and to take upon themselves the risks and responsibilities of business may be

called *minimum* or *necessary* profits. There is no fixed or definite rate of minimum or necessary profits. Different types of undertakings are attended with different degrees of risk; in other respects they are of different degrees of attractiveness; they appeal to different types of men. In most industries minimum or necessary profits will be larger in prosperous years than in periods of business depression when competing opportunities open to the business man are neither numerous nor attractive. And, in the nature of things, necessary profits will vary with the abilities and energies of different business men. But despite their lack of uniformity and stability, necessary profits constitute a fact to be reckoned with. They are like wages which society must pay to induce men to undertake the risks and responsibilities inseparable from business enterprise. From this point of view as well as from the point of view of the business man himself, they are virtually expenses of production. Including them in the expenses of production, therefore, we must conclude that in the long run the prices of goods cannot get very far away from the expenses of producing them.

The Significance of Normal Price. — Market price, in brief, constantly tends to approach normal price. But it may easily happen that the two never exactly coincide. The forces that tend to bring market price into line with normal price not only are, as we have seen, slow to operate but hardly ever work with nice precision. Market prices are constantly changing under the influence of short-time forces that affect the supply and demand of the moment. The expected future expense of production also exercises a powerful influence. If there is sound reason to believe that the future expense of production will differ materially from the past expense of production, the future expense will, in the case of durable commodities, exert a stronger influence than the past expense of production. Purchasers, particularly dealers, will stock up when higher prices are expected in the future. *This, it may be noted, leads to an exception from the ordinary law of demand. Rising prices in this case are accompanied by larger purchases.*

Normal price is something like a moving naval target floating on a choppy sea, bobbing up and down, and perhaps moving steadily

in a particular direction in obedience to some major current such as the Gulf Stream. The various ships shooting at the target do not always hit the bulls-eye; but the "hits" are scattered around it. These hits are related to the bulls-eye somewhat as actual prices are to the price objective which corresponds to the expense of production. It is impossible to locate with precision the exact position of the target at any time. None the less it is highly important to know that there is a target whose approximate position can be determined.

The concept or maxim of normal price has many important practical uses. If prices move away from expenses in a particular industry and profits mount with no obvious cause, there is reason to suspect *prima facie* some questionable suppression of competition. When the State undertakes to regulate the prices or rates charged by natural or recognized monopolies, it seeks to fix prices at expense of production, including a reasonable competitive profit.

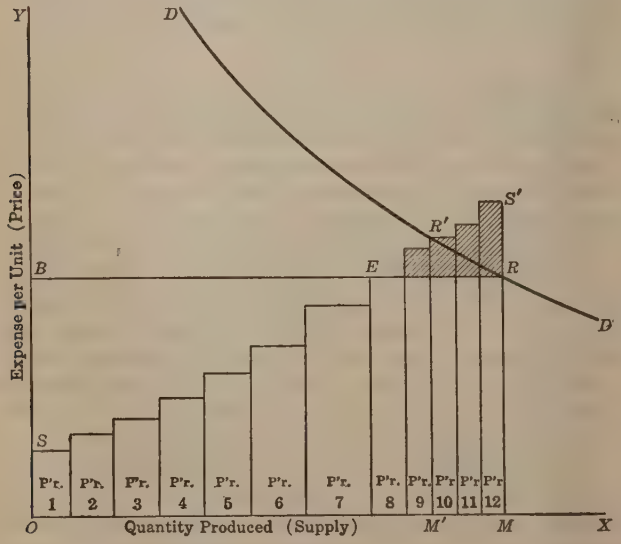

FIG. 4

A striking reduction in the expense of production is properly regarded as one of the soundest evidences of economic progress, because of our confidence that, under competitive conditions, it will eventually bring a reduction of prices to the consumer. This maxim, properly interpreted, is not only true, but it is inconceivable that it should be untrue, under competitive conditions. Who will maintain that under a condition of free enterprise prices can remain permanently either above or below the expense of production to those we have defined as " marginal producers " ?

Normal Price Illustrated. — The conclusions reached in the preceding discussion of normal price are illustrated graphically in Figure 4, in which quantity produced is identified with quantity supplied, and measured along OX, on the assumption that in the long run, under typical or normal conditions, what is produced must be sold. Production in the true economic sense includes selling. Similarly, both expense of production and price per unit are measured along OY. The total production or supply is divided among the twelve Producers ranged or ranked according to their average expense of production. Each rectangle represents the total expense of production to one producer, whose average expense per unit is represented by the height of his rectangle. If the tops of these rectangles were connected with a smooth curve (not shown) we should have a normal supply curve SS' which would cut the assumed normal demand curve approximately at R' where the expense of production per unit is $M'R'$. But this is not normal price. We must take into account the output of the group of " losers " — Producers 9–12. Their contributions swell the total production to OM and bring the normal price to MR. The losers tend to get out of the industry or into the profit making classes with the passage of time; but their places are taken by other incoming " losers." Hence there is no effective tendency for the equilibrium price to go to $M'R'$. The shaded or hatched area represents the normal loss at which the " industry " is conducted. The irregular area SEB represents the normal gross profit realized by the industry. The difference between the area SEB and the shaded area might be called the " normal net profit " of the industry.

Miscellaneous Considerations regarding Supply and Demand. — At this point it is convenient to discuss briefly a number of miscellaneous considerations regarding supply and demand, and particularly their diagrammatic representation.

1. The height of each rectangle in Figure 4 shows the average expense per unit to a particular producer, and this is correct for a normal or typical situation in which total production is set against an assumed or typical demand situation. But the unit expense varies for each producer as his output varies. For a small output relative to capacity the unit expense is usually high. It falls (per unit) as output increases; reaches a minimum and then rises as the maximum capacity is approached. The representative producer, ordinarily, will continue to produce so long as the marginal or highest expense of production is less than the probable or expected price, per unit. He does not stop production when the average expense is at a minimum. In times of depression he may continue to produce at less than cost in order to keep his organization intact. These and related questions are discussed below. But the normal procedure of the representative producer is to expand production until the marginal expense per unit equals the expected price.

2. The reader should note, in general, the great power and importance of marginal conditions. By what is frequently called the *Law of Indifference* we frequently impute or attribute to supra-marginal units the price or importance of the marginal unit. In Figure 4, for instance, the marginal price MR applies to the entire supply. Producers 11 and 12 must take this price, although it is less than expense or cost of production to them. Producers 1 and 2 get this price, although it yields them a handsome profit. The law of indifference explains perhaps the most distinctive characteristics found in the pecuniary exchange economy in which we live. A big crop of potatoes frequently sells for less than a smaller crop. We can sometimes increase total exchange value by destroying part of the total output. These and hundreds of important phenomena turn on the control exercised by marginal conditions operating in accordance with the rather pedantically named "law of indifference."

3. The typical demand curve slopes downwards. The typical

expense or supply curve slopes upwards. There are very few exceptions.

4. Of course, as time passes, expenses or costs may be falling and the quantities demanded at specified prices may be rising, particularly in the long run. This is discussed at some length in the next chapter. But at any given time a higher price per unit will be paid for a small quantity than for a large quantity (*i.e.* the demand curve slopes downward), and there are low-cost, high-cost, and losing producers (*i.e.* the expense curve slopes upward). It is difficult to illustrate graphically the changing interaction or equilibrium of supply and demand over a time interval. Changing demand would have to be represented by a series of curves, and changing supply by a similar series whose contour and internal composition would vary in a highly complex way.

5. Diagrams or graphs furnish an indispensable aid in illustrating the interaction of economic forces. But they seldom "prove" anything. And their essentially illustrative character is frequently forgotten.

6. The demand curve (or schedule) is an estimate or hypothesis of the quantities that *probably could be sold* in the future, or *probably could have been sold* in the past, at varying prices. It is hypothetical and can never be anything else. It is incapable of verification from facts. These or similar judgments are the very foundation of modern business. Their practical use and importance are very great. But they remain theoretical and hypothetical. By study of the average or usual behavior of prices and markets we can improve the probability of our estimates; and encouraging progress is being made in their statistical preparation. If they have anything approaching an adequate basis, they are all based upon average relations between price and quantity in the past, or correlations of changes in price and quantity in the past. Averages must be used to get usual or probable behavior. What has been said of demand curves or schedules applies, with slight changes and for slightly different reasons, to supply curves or schedules. Normality in the sense of statistical and economic probability is of their essence.

7. The concepts of normal price and normal supply have been

criticized on the ground that they are "unscientific," that they ignore the effect of changes in demand, that they lack precision and deal with vague "streams of tendency." Curiously, most of these criticisms rest on graphic analysis. They apparently ignore the fundamental character of the diagrams on which they rely. The basis of supply and demand is probability. The basis of exchange value itself is probability. We can only estimate what a particular good will probably exchange for. Sometimes the probable error of the estimate is so small as to be negligible; often it is very large. Past prices are only evidence of exchange value. Most of the prices published in the trade journals are averages or types estimated by experts. Normality in the sense of probability is the only truth there is to seek. The definite price that prevailed for a fleeting instant in one actual transaction may misrepresent the average price of the past, and is only one datum on which to estimate the probable price of the future.

The concept of normal price simply extends to the basic factors of supply and demand acting together the idea of probable or average behavior which is of the essence of the simplest demand curve. Not only economic analysis but business itself is based upon such imponderables.

(See References at Close of Chapter XII.)

CHAPTER XI

VALUE AND PRICE (*Continued*)

Major Factors Affecting Normal Price. — It is desirable at this point to review briefly a few of the more important factors affecting normal price, in order to prevent misunderstanding both of the problem and the conclusions reached.

1. Population generally increases as time passes. This raises a question with which we are particularly concerned here: Can the newcomers feed and clothe themselves as well as their predecessors, or, in general terms, what is the relation between the volume of production and the expense of production?

2. Monetary disturbances must be allowed for. Thus, from 1873 to 1896 the great majority of prices fell, while from 1896 to 1913 the majority of prices rose; in both periods partly owing to monetary forces which, while exceedingly important, disguise and obscure the forces which we especially wish to study at this point. For present purposes we must eliminate the monetary variation, so far as possible, by recomputing ordinary prices and wages (or their movements) in terms of a unit of constant purchasing power.

3. In the long run, wages and salaries, whether measured in money or in purchasing power, show a tendency to increase. While intervals of recession have occurred, the long-time trend seems plainly upward. This gives some answer to the larger question stated above: the newcomers are, on the average, able to produce more than their predecessors, if past experience is to be trusted. While the employer must normally pay more for a unit (*e.g.* an hour or week) of labor as time passes, this does not mean that the labor expense per unit of product necessarily increases. The employer may and normally does use less labor and more machinery, as time passes. And the fact that the purchasing power of wages and salaries tends to rise slowly, suggests that the average labor

cost of economic goods to the consumer tends to fall in the long run. Here we may note a difference in usage or terminology. We use the term "cost of production" to suggest fundamental cost in terms of labor. "Expense of production," as we use the term, signifies measurement in money. Many writers use the two terms synonymously. More often than not, "cost of production," as the term is used by other writers, means money expense of production.

4. The relative expense of marketing shows a decided long-time tendency to increase. By "relative" we mean relative to the entire expense of production. Of the total price to the ultimate consumer an increasingly larger proportion is due to marketing or selling as distinguished from other expenses of production. We shall not attempt to state all the reasons for this increase. It is partly due to the fact that marketing involves a large amount of human service, the cost of which increases from decade to decade; and partly to the fact that mass production makes it necessary to utilize more distant and more resistant markets.

We have noted above only a few of the important factors which, in the long run, affect unit expense and price. We have said nothing about the exhaustion of natural resources, the progress of invention, and the so-called external and internal economies discussed below. We have made no reference to what might be called efficiency factors: an authority (J. M. Clark) in this field has recently distinguished twelve principal factors or variables governing industrial efficiency. What we wish to emphasize here is that normal price is a resultant of many diverse factors and that the content of the groups or classes distinguished in the next paragraph vary from time to time. There are different types or norms of industry subject to different laws or price reactions. A particular industry may be in one class during one period and in another class during the succeeding period. But the classes, with their different reactions, persist.

Industries of Increasing, Decreasing, and Constant Expense. — Taking into account the above facts, economists distinguish three types of industries; (1) those in which increasing volume of production is accompanied in the long run by increasing expenses per unit of production; (2) those in which a similar increase in the vol-

ume of production is accompanied by decreasing expenses per unit of production, and, finally, (3) those in which this increase in volume of production is accompanied by constant expenses per unit of production. Agriculture and the extractive industries have generally been cited as the most representative industries subject to increasing expense. Until recently economists have usually held that increasing population forces men to resort to poorer and poorer soil and to poorer and deeper mines and at the same time leads to the exhaustion of forests and their natural resources. So far as this is true all these industries would belong within the class of industries that are subject to increasing expense. This question will be discussed again. Large scale manufacturing is usually regarded as the most typical illustration of the industries subject to decreasing expense, owing to the well-known economies effected by the constant improvement of methods, inventions, and mass production. A typical illustration of the industries subject to constant costs is found in tailoring. In such industries an increase in the output is likely to take the form merely of the multiplication of competing establishments of the general type that prevailed when the output was smaller. This group of industries, however, is relatively unimportant.

The classification of industries that has been given is based upon the belief that it conforms to long-run tendencies. It has not been held by the more careful economists that any particular extractive industry must be subject to the law of increasing expense or that in any particular manufacturing industry the condition of decreasing expense must obtain. It has been freely recognized by Ricardo and leading economists since his time that in agriculture improved methods may offset the powerful forces tending in the long run to increase unit expense of production. It is similarly recognized that increasing expense of raw material, rising wages or other factors may offset the powerful forces which make for reduction of expense in manufacturing.

A recent examination [1] of the trend of prices between 1896 and 1913 covering 213 commodities, showed that the trend was upward

[1] F. C. Mills, *The Behavior of Prices* (National Bureau of Economic Research, New York, 1927), pp. 507–511.

in 185 cases and downward in 28 cases. Of the 28 commodities whose prices moved downward only 4 are found among farm products and foods, while the prices of 50 farm and food products moved upward during this interval. Correcting these price trends by taking into account change in the general purchasing power of money, 140 prices are shown to have moved downward and only 73 upward between 1896–1913. Of the upward trends, on the basis of constant purchasing power, more than one half occurred in the two groups of farm and food products. The period 1896–1913 is brief; but the results reached in the above investigation appear to be typical of long-time price movements. Money prices, in the past, have risen in general over long periods. When corrected for change in the general purchasing power of money, the prices naturally fall into a group of rising and a group of falling prices. In the group of rising prices, farm and food products have usually been prominent. It may be added that between 1896 and 1913 average wages rose, measured both in money and purchasing power. This also is typical of the general movement which has characterized the past century.

Since 1920, however, a remarkable change has taken place in all parts of the world which have been under the dominating influence of Europe and America. There has been a slowing down in the rate of population growth; but at the same time there has been a marvelous improvement in agricultural production; this has increased 50 per cent more rapidly than population has grown, as clearly shown by Dr. O. E. Baker, Senior Agricultural Economist, United States Department of Agriculture.[2] If the food and raw material furnished by agriculture continue to increase more rapidly than population, we shall probably have a rising margin of cultivation and population will "press" less heavily upon land and the other sources of subsistence than in the past. A diminishing portion of the population of the world will be devoted to raising the

[2] "Changes in Production and Consumption of Our Farm Products and the Trend in Population," Addresses before the Agricultural Extension Conference, University of Minnesota, St. Paul, Minn., December 13 and 14, 1928, by Dr. O. E. Baker, Senior Agricultural Economist, Division of Land Economics, United States Department of Agriculture. Reprinted from *The Annals* of the American Academy of Political and Social Science (Philadelphia, March, 1929).

necessary food supplies. The "cost" of food in labor and toil will diminish. The period since 1920 is a short one and past experience should make us careful in our predictions of the future. Possibly, population may again begin to increase more rapidly than the output of agriculture. But we believe not. We think it probable that society will continue to feed itself with increasing ease and that agriculture will afford its products at a relatively decreasing cost.

It should be noted that these observations about cost do not apply to expenses of production or to prices. Expenses and prices are affected by monetary changes, and may go up or down in obedience to monetary factors. And apart from monetary considerations, if production increases more rapidly in manufacture and trade than in agriculture, the prices of agricultural products may rise more or fall less than the prices of other goods, without impairing the truth of what has been said about the reduction of agriculture costs. Those who depend for their livelihood upon agriculture suffered keenly by the fall of prices in 1921 and the subsequent agricultural depression. This condition may be remedied; agricultural prices may rise in comparison with other prices, and yet society still find it possible to procure the necessary food and raw materials with a decreasing proportion of its capital and labor. Agricultural "costs" may decline while agricultural prices and profits rise. It is obvious that while the classification of industries into those subject to increasing, diminishing, and constant expense is useful, it must be interpreted with care.

In theoretical analysis, it is even more important to distinguish the industries subject to increasing expense from the industries subject to decreasing expense. For instance, a tax upon gross sales or per unit of output will normally operate to increase prices more when imposed upon an industry subject to the law of increasing expense, than when imposed at the same rate upon an industry subject to the law of decreasing expense. The reason is plain. Such taxes operate to increase the price and reduce the quantity sold. This reduction of volume, in an industry subject to increasing expenses, pushes it back to a lower expense level, and tends to reduce expense of production per unit. The industry operates

under more favorable conditions when restricted. But in an industry subject to diminishing expenses the check to output tends to increase unit expense of production. Reducing the volume of output increases the expense of production. In general, where the government must repress industry by excise taxation or some similar burden, it is better — *other things being equal* — to repress industries subject to increasing expense than those subject to decreasing expense. And the reverse holds for bounties, special tax exemptions, and similar stimulants to production. Theoretically, something may be said for bounties if confined to industries of diminishing expense. But bounties to industries of increasing expense are particularly wasteful. By encouraging production under increasingly unfavorable circumstances, such a bounty is likely to cost the government far more than the consumer saves through the reduction in price which results from increased output. And there is a sound initial presumption against tariff duties which are likely to extend the home production of products derived from natural resources easily subject to exhaustion. Tariff duties under such circumstances stimulate and hasten the operation of the law of increasing expense. All that is said here is subject to the qualification "other things being equal." Other practical considerations may not be equal and may either offset or reinforce the one factor or consideration here noted.

What has been said above relates to tendencies in the long run. At any given time or for any short period, we may repeat, the normal or usual supply curve slopes upward to the right as shown in Figure 4 of the preceding chapter. There are exceptions to this statement. In emerging from the depths or trough of an industrial depression, when there is much unused productive capacity, an increased volume of output may, for a short time, take place at diminishing expense per unit of production. But this is exceptional. The normal supply curve rises because it conforms in a general way to the expenses of the various producers when ranged or ranked in accordance with unit-expense of production.

Internal and External Economies. — The long-time tendency to increasing expense, due principally to the increasing resistance of each factor of production as it is more intensively exploited, is

discussed in later chapters (XX–XXI), in connection with the so-called laws of diminishing productivity and diminishing returns. We shall confine our attention here to the opposite connection between volume and expense of production, where increased production lowers prices. This condition of decreasing expenses cannot prevail, of course, except where an increasing volume of output is attended by certain economies. What is the nature of these economies?

It may happen, in the first place, that an increase in the average size of plant is the inevitable and natural accompaniment of the increase in the output of an industry. Probably such changes are economical. Otherwise, we may assume, they would not have been made. In so far, then, as an increase in industrial output makes possible a more advantageous size for the average plant in the industry, just so far must the economies thus wrought be taken into account. The economies resulting from the increase in the size of the individual business establishment are called *internal economies*. Important as these internal economies undoubtedly are, we must be careful not to exaggerate their significance. In agriculture and in some special fields of manufacture and trade, the average size of individual undertakings is not increasing or, at most, is increasing slowly, despite a rapid growth of the total volume of output. But in nearly all of the industries in which we have any reason to suspect the presence of the rule of decreasing expense, we find that the average establishment has been growing larger.

Vastly more important, however, are the *external economies* in the general organization of a whole industry which result from an increase in its output. These economies take the form, for the most part, of a greater specialization or division of labor *within the industry as a whole*. It becomes profitable to separate the different processes in the operation of the industry. Opportunity is thus given for a more thoroughgoing and more efficient specialization of labor and for the use of highly specialized machinery. Plants themselves become specialized — devoted only to certain steps in production — and these specialized plants may be located at particularly advantageous points. Subordinate industries may be developed, supplying machinery, other equipment, and accessory

products. Improved agencies of transport may be developed. In short, a large output makes it possible for an industry to utilize the best and most economical methods of production and to keep pace with the advance of technical knowledge.

Indirect, roundabout ways of doing things, involving a thoroughgoing subdivision of processes and the use of large amounts of fixed capital in the form of elaborate plants and expensive machinery are advantageous only when the industrial output is large. All these things have played an important part in the progress of most of the great manufacturing industries, and in making their products cheaper. Unless some obstacle, some countervailing force, prevents, these economies are sufficient to make almost any large and growing industry one of decreasing expenses.

On the other hand, checks to the low or decreasing expenses of large scale industries have appeared, particularly the increased (relative) expense of marketing and rising wages referred to above; and also the relaxation in the intensity of competition which sometimes accompanies increase in the size of the plant or business unit.

The internal economies of large-scale production must be distinguished from external economies, for they lead to consolidation and sometimes to monopoly while the external economies have nothing directly to do with monopoly (except so far as they consist of internal economies in subsidiary industries). The internal economies come to the producer who is responsible for them, while the external economies are largely free gifts made by single producers to industry in general. One raises the question of cut-throat competition and monopoly; the other raises the question of protection or subsidies to stimulate industrial pioneering which is worth more to industry as a whole than the pioneers can ever hope to collect in profits.[3]

The Reality of the Tendency to Decreasing Expense. — The concept of decreasing expense has been said to be misleading on a number of grounds; that such a tendency where it is noted is temporary or exceptional and leads quickly to the condition of increasing expense; that it is not a fact but an appearance explained by the relationship between fixed and variable expenses noted below; that if it existed it would culminate in extreme concentration or monopoly.

[3] J. M. Clark, *The Economics of Overhead Costs* (University of Chicago Press, Chicago, 1923), p. 84.

As has been seen, increasing expense is the usual or normal condition of an industry considered over a short period of time. When output is suddenly or sharply increased, it must ordinarily be done at increasing expense per unit, despite the fact that there is normally some unused or excess capacity which permits a reduction of fixed expenses per unit when the volume of production is enlarged. But we are speaking of the long run; and from that point of view the facts indicate a different conclusion. The economic history of the past hundred years shows that in the majority of manufacturing industries, prices fall in the long run when measured in money of constant purchasing power or in purchasing power over labor or human service. Wages buy more manufactured goods as time passes.

The principal cause of the tendency to decreasing expense is found in the "progressive division and specialization of industries." It is a phenomenon not so much of the typical unit of industry or of any one industry, as of increasing specialization of industries taken together. It is assisted of course by invention and new knowledge; and also retarded by the exhaustion of some natural resources; but it would probably go on even without invention, because of the economies resulting from the use of roundabout and indirect processes of production, manifesting themselves particularly in newer and more specialized industries. "Decreasing expense," as a resultant of many partly conflicting factors and forces, represents the long-run tendency in a large and important group of industries under competitive conditions.

Fixed and Variable Expenses. — Thus far we have been considering the ways in which prices are affected by changes in the aggregate volume of production of different industries. We now pass to the consideration of the way in which the expenses of an individual plant or establishment within an industry are affected by an increase in the volume of its output. In almost any establishment, any increase in product will be attended by *some* specific increase in expenses: more raw material and more labor will be used, possibly more power; although the increased expenses for labor and power may not be proportionate to the increase in production. Such expenses are called *variable expenses*, and are to be contrasted with *fixed expenses*, which remain approximately the same, no matter

what the amount produced is. The interest on the funds invested in the factory building and its equipment of machinery is a fixed expense; the expense of management and general office expenses will not usually be increased proportionately by an increase in the annual product of an establishment.

It is often assumed that wherever only a part of the expenses varies with the amount produced, the establishment is *ipso facto* one in which large-scale production is especially economical. Whether this assumption holds true or not often depends on the scale of production we have in mind. Factories and other plants are built with a certain maximum capacity, and until that maximum capacity is utilized, production may be increased without a proportionate increase in expenditure. But when the maximum is reached, more equipment, and often more buildings, will be needed before there can be a further increase in product. There is often a certain most efficient size of plant; an increase in business beyond the capacity of the most efficient size of plant necessitates either a refusal of new business or a duplication of the plant. When business conditions are such as to warrant temporarily pushing the output of a plant beyond its normal capacity, the result usually is, as every manufacturer knows, that this increased output is produced uneconomically; that is, at relatively increased expenses of production per unit of output.

Many seemingly constant expenditures (like interest on the cost of the plant) are variable in the long run. Such expenditures increase, but only at considerable intervals of time, as additional investments in fixed capital are made. The conditions of production may often be such as are illustrated by Figure 1, in which the ordinates represent the average expense per unit of production and the abscissas represent varying amounts of product. When OM units are produced, the average expense per unit of production is MP. When the production reaches OM' units and again when it reaches OM'' units, fresh investments of large amounts of capital are necessary, and unit expense rises sharply as shown in the diagram. Figure 1 illustrates roughly the variation of average unit expense in an enterprise in which the economies of large scale production are possible and in which, from the long-time point of view,

the unit expense of production declines. If the enterprise were subject to the law of increasing expense, the irregular curve SS' would slope upward from S to S' but would decline within each separate stage of production such as OM', $M'M''$, etc. The latter situation is illustrated in Figure 2. Some economists criticize the idea embodied in Figure 2. Why increase the size of the plant, they say, if such increase will result in higher unit expense of production? Why not construct a new or second plant similar to the first one? The answer is that the entrepreneur in many cases has no option. In such cases he must increase his production to hold his trade and he cannot always put up a new plant which will produce as efficiently as the first. The situation is illustrated in public utilities where the plant development must frequently be in the same neighborhood and the producer is compelled to give the larger service.

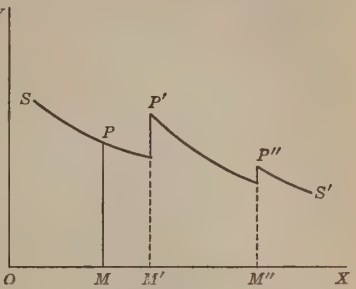

FIG. 1

The Relation of Fixed and Variable Expenses to Price. — The fact that, *within limits*, the expenses of a business undertaking do not increase proportionately as the output increases has an important bearing upon competitive price-making. The proprietors of a business establishment will feel justified in increasing their output, provided the additional output will sell for enough to afford some profit above the actual amount by which it *increases* their expenses. If the full capacity of their plant is not already utilized, they will count as profit any addi-

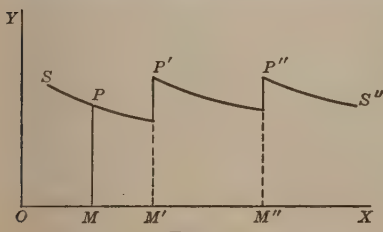

FIG. 2

tional income they can secure above the necessary increase in variable expenses. If they are producing some staple commodity for the general market, so that they cannot discriminate in the prices at which they sell to different buyers, they will find it difficult to cut prices on *part* of their output. But if they are producing a variety of goods, if they are making highly specialized products " to order," or if they are selling in two or more widely separated markets, they may often be able to increase their output by accepting prices too low to contribute anything to the payment of their fixed expenses. This is often the explanation of the " dumping " of part of a manufacturer's product on a foreign market at a lower price than he charges at home. Railways are able to take advantage of the fact that (for the time being) only part of their expenses vary with their traffic, for they do not have to charge a uniform rate per ton per mile, but can classify their rates according to the origin, destination, and nature of the traffic. The rates charged by electric plants are often less for current use at certain hours of the day when the capacity of the plant is only partly utilized. The reader will probably be able to supplement these illustrations with others based upon his own observation.

If a business establishment is hard pressed by competition, or if for any other cause, such as a dull season, its sales are small, its proprietors may decide to cut prices on their *whole output* to a point that will cover variable expenses and possibly contribute something toward meeting fixed expenses. Some fixed charges, like depreciation, interest, rent, insurance, taxes, will continue even if the output is little or nothing. It will very likely be sound business policy to make the best of a bad situation by getting what little income can be had *over and above the variable expenses* of production. Much money may have been irrevocably invested in the business, and although possibly under no conditions can it be made to yield the return that had been expected, matters will not be bettered by letting the plant lie idle.

It may be that the prices which the proprietors of the business thus reluctantly decide to accept are high enough to pay all the expenses of production, fixed and variable, in some competing plants, better organized or more favorably located. Or it may be

that some or all of the competing plants also find it necessary to accept prices that do not cover their fixed expenses. Sometimes the fact that it is more profitable to produce at prices which cover merely the variable expenses than not to produce at all leads some one establishment to cut prices. Other establishments have to reduce prices in order to protect themselves, and a period of cut-throat competition may ensue.

Though at any given time it may be the variable rather than the aggregate expenses of production per unit of product which fix the price at which some or all of the different establishments in an industry are selling their products, in the long run prices have to be high enough to induce the replacement of fixed capital as it wears out and (in a growing industry) to attract new permanent investments of capital. That is, in the long run, prices have to be high enough to cover both variable expenses and fixed expenses, — which last, as we have seen, are generally variable as seen through a sufficiently long period of time. For most commodities, variable expenses account for by far the larger part of the price. The element represented by fixed expenses is usually much smaller, and that represented by profits is smaller still. Variable expenses operate as a constant and definite force, holding prices in the neighborhood of the expenses of production. Producers get as much more than the sum of variable expenses as they can. Sometimes they get very much more; sometimes very little more. But in the long run, if they are to remain in business, and if they are to be able to secure the recurrently necessary supplies of capital, they must get in addition to variable expenses their fixed expenses plus necessary or minimum profits. When they get very much more, their advantage will be equalized and leveled down by the competitive processes we have already described.

Joint Expenses of Production. — When the production of one commodity is inevitably accompanied by the production of one or more other commodities, it is generally impossible to assign a definite part of the total expense of production to any one of the commodities. It is impossible to separate the expenses of producing tenderloin steaks from the expenses of producing soup bones, or either one of these from the expenses of producing hides. Mutton

and wool, cotton and cotton seed, coal gas and coke, gasoline and fuel oil, are familiar examples of commodities produced under conditions of *joint expense*. Modern methods for the utilization of industrial by-products have greatly increased the list of commodities thus produced.

What is the normal price of these jointly produced commodities? Take first the simplest case: that in which *all* the expenses of producing two commodities are joint expenses. Neither commodity can be said to have a normal price of its own, for neither commodity has specifically assignable expenses of production of its own. But the two commodities, taken together, have what may be called a *collective* normal price. Suppose, for example, that the production of every unit of one commodity is necessarily accompanied by the production of two units of the other commodity. It is evident that in order to induce the production of these commodities the price of a unit of the first commodity plus the price of two units of the second commodity must cover the joint expense of producing these three units. This joint expense, then, measures the collective normal price of the three units. Just how the market prices which, in their sum, will tend to approximate this collective normal price, will be fixed, will depend upon the conditions of demand for each of the two commodities.

When, as often happens, two commodities are produced under conditions of *partially* joint expenses, further separate processes being necessary to fit each commodity for the market, the price must in each case cover all the specific or assignable expense. This gives a normal minimum below which the price cannot fall in the long run. But the *joint* expenses must be imputed or apportioned to the two commodities in accordance with some arbitrary rule. Apportionment according to sales (receipts) is perhaps the most general rule, but this makes price determine expenses, and leads to other inconsistencies. There is no standard or best rule and this is unfortunate, as tariff making and other important decisions frequently rest upon the determination of the expense or cost of a joint product.

While the collective normal price is fixed by expense of production, the division of this total, or the prices of the individual prod-

ucts, depends upon demand — upon the "marginal utility" of each product. The effect of demand upon the prices of joint products is interesting. For instance, a sharp increase in the demand for wool, registered in a higher price for wool, is likely to increase the supplies of both wool and mutton, and thus cause a drop in the price of mutton.

The Surplus of Bargaining. — Demand and supply do not always fix price at a definite point. The price of a horse, of a second-hand automobile, or of a dwelling house is fixed only approximately by market conditions. There is room for considerable latitude of opinion respecting the price that should be paid. If the lowest price the seller will take is considerably below the highest price the buyer will give, just where between these limits the actual price will be finally fixed will depend either upon chance or upon the relative skill at bargaining of the seller and buyer. In the case of a horse trade, this opportunity for the "higgling of the market" has become proverbial. In many other kinds of exchanges, as well, the efficient bargainer has an opportunity to get for himself a surplus above his minimum selling price or below his maximum buying price. Real estate transactions furnish a good example. In the case of the great commodities of the world market, like wheat, cotton, and iron, the price is set so accurately by market conditions that the gains of bargaining are relatively small. *In general, the wider the market, the more general the use of the commodity, the greater the ease with which the commodity can be sorted into standard grades (as in the case of wheat and cotton), the more accurately will competitive forces fix a definite price. Goods which cannot be standardized, each unit of which possesses some unique qualities, give most scope for the variations in the valuations of individual buyers and sellers.* In such cases supply and demand do not fix a price point, but only certain limits within which the price must fall.

Non-Reproducible Consumption Goods. — Some economic writers have made a special class of such goods as great works of art. These are absolutely unique, in that no copy can have anything like the value of the original. The price of a non-reproducible good has an upper limit fixed by the highest subjective valuation set upon it by any possible buyer. The lower limit will be either (1) the seller's

own subjective valuation, or (2) the second highest valuation set by any competing buyer, according as one or the other of these two is the higher. Between the upper and lower limit the exact fixing of the price is a matter of chance or of bargaining.

It is highly important to notice both the resemblances and the differences between the prices of non-reproducible goods and monopoly prices. We pass by slow gradations from non-reproducible goods such as Rembrandt's paintings, into handicraft and related products which possess a non-reproducible element of artistic individuality, into goods given a market individuality by trade marks or trade brands, into pure monopoly goods which could, technologically speaking, be produced by many persons but which are for one reason or another produced only by the monopolist. Monopoly goods are not reproduced by others; but they are regularly reproduced by the monopolist.

The ordinary law of normal price applies fully to none of these classes. In the first class, that of non-reproducible goods proper, the " normal " price is simply the highest price that can be obtained for them. Expense of production fixes no limits and plays no part. In all the other classes, however, as we shall see later in this chapter, expense of production plays an important though not a dominant rôle. The price is fixed by the monopolist or producer; but in fixing it he is profoundly influenced not only by conditions of demand, but by the varying expenses of production.

Monopoly Price. — The chief peculiarity of monopoly price is found in the power of the monopolist over supply. This is what gives the monopolist the ability to secure surplus profits. In competitive industry the supply is not within the control of a single producer, and, as a result, prices tend to be controlled or limited by the expenses of production. The competitive producer cannot increase his profits by limiting the supply, and it is on this account that the law regards competition as one of the main pillars of our present social order.

The monopolist will normally endeavor to fix his output at a point that secures for him the *highest possible net returns*. How will this point be determined? On the one hand the monopolist has to face the fact that, although he can increase his gross receipts up to a

certain point by increasing his output, yet the increase in gross receipts will not be proportionate to the increase in output, for the simple reason that the increased output will not find buyers except at a lower price per unit. On the other hand an increase in his output will always increase his aggregate expenses of production, although here again the increase (in expense) may not be proportionate to the increase in output. In particular there are likely to be some permanently fixed expenses which, for the time being, will be the same for a small output as a large one, and there may be other expenses which will not increase unless the output should be made much larger than would be profitable. Indeed, it may often happen that the fact that a large output would make it necessary to increase certain expenses which would otherwise be fixed (such as the cost of the plant) may lead the monopolist to choose to produce a relatively small quantity of goods.

The following table shows in parallel columns the number of sales of a monopolized good at different prices, the total resultant receipts, the variable expenses, the fixed expenses, the total expenses, and, finally, the net revenue or monopoly profit. For the sake of simplicity it is assumed that all of the fixed expenses are permanently constant, at least for such possible increase of output as the monopolist cares to consider.

Study of the table will show that, in the case assumed here, the monopoly price will stand at six cents. It would be possible for the monopolist to produce 5,500,000 units, for this would give him a net profit of $5000. But since he can control the supply, he will limit

TABLE VIII

Price per Unit	Number Sales	Total Earnings	Variable Expenses per Unit	Total Variable Expenses	Fixed Expenses	Total Expenses	Net Revenue
$.10	600,000	$ 60,000	$.03	$ 18,000	$50,000	$ 68,000	− $8,000
.09	800,000	72,000	.03	24,000	50,000	74,000	− 2,000
.08	1,200,000	96,000	.03	36,000	50,000	86,000	+ 10,000
.07	1,800,000	126,000	.03	54,000	50,000	104,000	+ 22,000
.06	2,500,000	150,000	.03	75,000	50,000	125,000	+ 25,000
.05	3,500,000	175,000	.03	105,000	50,000	155,000	+ 20,000
.04	5,500,000	220,000	.03	165,000	50,000	215,000	+ 5,000

his output to 2,500,000 units, giving him the maximum net return, $25,000.

The case assumed here is in many ways far simpler than the cases presented by real life. The monopolist may not be able easily to hit upon just the price that will yield maximum net profits. He may, by experimenting a little, approach more closely to it, but at best he can hardly hope to reach more than an approximate maximum. Or it may be that the monopoly is one in which the price is fixed by custom or convenience, so that the monopolist can vary only the quality of the commodity or service he sells at the established price. Moreover, it should be noted that the price most profitable for the present may not prove the most profitable price in the long run. The monopolist may choose to forego some of his possible profits this year in order to extend the field of demand for his product and to lay the foundation of a long-continuing period of profitable production. Furthermore, in view of the possibility of the public regulation or public ownership of his business, he may deem it expedient not to arouse public hostility, and so may decide to sell at a price lower than what would, for the time being, be the most profitable price. Finally, the monopolist will not ordinarily fix his price so high as to invite dangerous competition. This "potential competition" is sometimes a controlling or moderating factor of great practical importance.

The Effect of a Tax. — Our numerical illustration may be made to convey a lesson regarding the influences of taxation upon monopolies and monopoly price. If a *fixed* tax, say of $5000 a year, were to be laid upon this monopoly, it would not result in an increase of price. A study of the table will show that with such a tax the net revenue at price .08 would be $5000; at price .07, $17,000; at price .06, $20,000; at price .05, $15,000; at price .04, nothing. Thus price .06 will still be the point of maximum net revenue, and hence the monopoly price. Nor will a tax proportionate to the *profits* or *net revenue* of the monopoly change the price. Suppose, for example, that the monopolist must pay a tax equal to 50 per cent of his net revenue. Such a tax would cut the net revenue of the monopoly in the illustration down to $12,500, if the price remained .06. But this, of course, is a larger remainder than would be left to the

monopolist if he should shift his price to any other figure. In short, a tax on the net revenue of a monopoly does not change or affect the conditions which make one price more profitable than another. Hence, it is not true, as is often believed, that a monopolist can generally free himself in whole or in part from the burden of a tax on monopoly profits by increasing the price he charges.

On the other hand, *a variable tax on the product*, for instance a tax of one cent per unit, would result in this case in raising the monopoly price. In our illustration, such a tax would make the net revenue at the price .08, — $2000; at the price .07, — $4000; at the price .06, nothing; at the price .05, — $15,000. Thus, though the monopoly would find its profits greatly curtailed by such a tax, consumers would be compelled to pay one cent more per unit for the monopoly product. The possible advantage which society might draw from the tax would therefore be wholly or in part offset by the increased cost of the commodity. We may conclude, therefore, that fixed taxes, or taxes on the net revenue of a monopoly, cannot be shifted wholly or in part by a change in price; while taxes laid in proportion to the amount of business, since they contribute an addition to the variable expenses, may be wholly or in part shifted by a change in price.

Relation of Demand to Monopoly Price. — Certain conditions on the side of demand have a decisive influence in determining monopoly price. The most important of these is the degree of elasticity of the demand for the monopoly product. *The more inelastic the demand for the monopolized commodity or service, the higher will be the monopoly price which will yield the greatest net returns.* If a commodity is a necessity of life, or is so habitually consumed that people cling with intensity to it, monopoly will, other things being equal, be more profitable than if the commodity were one which could easily be dispensed with. This helps to explain why salt and tobacco have been chosen as fit objects for public fiscal monopolies. The more adequate the substitutes for a commodity, the smaller will be the opportunity for surplus profits which a monopoly of that commodity will give. Finally, the higher the general average of economic well-being, and the more readily money is generally expended, the higher will be the monopoly price which will yield the largest net returns.

Thus monopoly, without any effort of its own, shares in the increasing wealth of a country, and absorbs a considerable part of it. It is, for example, among other influences, the larger wealth per capita and the greater willingness to spend freely that make monopoly more profitable in the United States than in European countries.

Class Price. — Thus far we have assumed that the monopolist charges one uniform price and sets the price at the point which yields him the largest net returns. But it is obvious that his gains will be increased if he is able to vary his price. His gains would be highest if he could charge *each individual* that price which would yield the largest net returns, taking into account the number of sales and profits on each. A rich man might pay double the current rates for gas or electric light without diminishing his consumption appreciably. But in most cases it is obviously impracticable to fix a price for each individual, even were there no legal difficulties in the way, as there are in the case of the great monopolistic businesses such as gas and electric lighting and railway transport. The next best thing for the monopolist is to divide his public into classes, and to charge to each class that price which will yield the largest net returns. In the table already given, we found that six cents was the monopoly price on the hypothesis of one uniform price, but obviously, if the eight-cent and seven-cent prices could be secured, and six cents reserved as a price for sales that could not be made at eight or seven cents, the profits would be still higher.

This principle gives rise to what, in its broad, general terms, we call *class price*. The monopolist seeks in every possible way to divide his community into classes and to secure from each the highest possible price. We observe a remarkable development of class price in the case of our railways; and, unless legal obstacles are interposed, this development will doubtless go still farther. We have special trains with an extra charge. We have privately owned railway coaches; our drawing-rooms and single seats in "parlor cars"; our ordinary first-class tickets; and, in some sections of the country, our second-class tickets, the purchasers of which frequently ride in the "day coach" with the first-class passengers. Then we have single tickets, fifty-trip family tickets,

monthly commutation tickets, etc., with enormous variations in price. We may go further and say that the American railway rate system of "charging what the traffic will bear" is a consummate example of class prices.

Monopoly price will vary with *use* also. This is a special variety of class price, and may be designated as *use price*. The typical instance is that of two prices sometimes charged for gas: a higher when it is used for illuminating purposes; a lower when it is used for fuel.

The class price is based on the principle of the existence of different *layers of demand*. To tap those layers separately would maximize the monopolist's net revenue. Another type of price differentiation from which the monopolist can derive profit is based on differences in conditions of *supply* rather than of demand. The essential point to notice is that some units of the supply can be produced more cheaply than others. For example, if at equal rates the east-bound freight traffic of a railway would be distinctly larger than the west-bound, it would be profitable to reduce rates on the west-bound traffic. Otherwise, cars would have to be brought back empty, at an expense not greatly less than if they were loaded. Another example is afforded by the rates charged by electric light and power stations. At certain hours, as in the early evening and in late afternoons in winter, more current is being used than at other times. This creates what is called the peak load upon the equipment of the plant. The capacity of the plant has to be large enough to take care of this peak load. And it often happens that the peak could not be greatly increased without increasing the plant's capacity, which, of course, would increase its so-called fixed expenses. At other hours of the day, however, when the capacity of the plant is not being fully utilized, additional current might well be sold at a considerably lower price. The amount of current sold during these hours does not affect the peak load and hence does not affect the fixed expenses of the undertaking. Sometimes, as in railway transport, the two principles, class price and discrimination according to the relation which particular units of output have to the increase of fixed charges, work together in an exceedingly intricate fashion.

(See References at Close of Chapter XII.)

CHAPTER XII

VALUE AND PRICE (*Concluded*)

The laws of normal price and monopoly price discussed in preceding chapters, represent two extreme norms. In the case of consumption goods, an increasing number of price transactions fall somewhere between the two. There are a few absolute monopolies. At the other extreme, the writers have known competition sometimes so severe that competing producers have actually given away their products in a fight of extermination. The investigator of prices, therefore, in a wide investigation, will find almost every stage between cut-throat competition and absolute monopoly represented.

In the main, however, we live today under a régime in which competition has been shifted, by the "differentiation of products and sales effort," away from price. The average producer today dreads the acid test of exact price comparison. He multiplies styles, grades, brands, and terms. He spends millions in advertising to convince purchasers that he has something that cannot be supplied by other producers. Each producer of a branded specialty is a quasi-monopolist. No competitor can offer that particular brand. In the case of such goods, consequently, there are no definite prices mechanically fixed by the interaction of supply and demand. The producer fixes his own price in accordance with a procedure similar to that explained under monopoly price. Price determination becomes a question of individual business policy in which the principal object is to keep the customer's loyalty and divert his attention from price considerations.

But the monopoly is more apparent than real. Underneath the surface the old law of supply and demand exercises just as much control as in the past; not with as much precision but with quite as much power. We have heard a good deal of talk about the

"growth of monopoly in recent years." On the contrary there has probably been a growth of real competition. The reader may test the matter roughly by checking his own expenditures. The largest average expenditure is for food. Competition among producers and distributors of food, including the great packing companies and the chain stores, is genuine and effective. Rent is perhaps the next largest expenditure. There is no monopoly in housing. The same is true of most other expenditures. Competition is obviously keen in the supply of clothing, of automobiles and gasoline, tobacco, sports and amusements, in education and travel facilities. It is only in the electric power, gas, telephone, water, and street-car service that the average consumer is conscious of monopoly in any important degree; and the prices of these services are subject to public regulation, which is not always, it must be confessed, effective.

It is clear, then, that supply and demand bring about a uniform price only in a few instances. In the case of standardized goods such as wheat and cotton which are sold on the great exchanges, competition does obviously tend to bring about a uniform or precise price, but it is temporary and flitting. The price in the afternoon may vary markedly from the price prevailing in the morning. Such prices depend almost entirely on estimated future conditions; and speculative estimates change with prices and the volume of sales themselves. Only in the case of a good which is strictly standardized, but which is not bought for speculative future sale do we get a manifest tendency toward uniformity likely to hold for a considerable period of time. The great majority of uniform prices apply either to branded specialties or to articles actually controlled by legal or illegal monopolies. In most other cases, the uniformity is apparent and not real. Thus for many years the price of bread was more or less uniformly five cents a loaf, but the loaf differed in weight, quality, and wrapping. Competition may thus result in either uniform or different prices, but the tendency to differentiation of product and service makes uniformity the exception rather than the rule. Competition is just as powerful as ever, but it works out through substitutes, through the offer of supplementary service or better terms of payment. Monopolistic control is probably less

widespread and important than it was in the last quarter of the nineteenth century. There is an effective substitute today for almost every consumers' good. The subject of unfair competition and restraint of trade is discussed further in Chapter XXVII.

Prices of Production Goods. — Up to this point the discussion has been confined to the prices of consumption goods. In the case of short-lived, freely reproducible production goods such as some tools (for example, spades, hoes, etc.), coal and most raw materials, normal price is controlled by the expense of production in quite as large degree as is the price of a reproducible consumption good. But the demand factor is different. Consumption goods are demanded because they satisfy human wants; that is, they yield an income of satisfactions. Production goods, however, are demanded principally because they assist their owners in gaining a money income.

This introduces a new causal factor in price determination and affords an additional method of determining value or price: that of taking the present worth or value of the expected future income, a method generally known as *capitalization*. In its simpler applications, this process is familiar. If a perpetual bond pays $60 a year interest and the rate of interest appropriate to bonds of this type and risk is 5 per cent, the bond will ordinarily sell for $1200 ($60 divided by .05). This method of valuation or price determination is frequently used in determining the market value of land, apartment houses, mines, oil wells, and business plants valued *en bloc* or as going concerns. It is more complicated than the simplified process given above. Account must be taken of depreciation, depletion, hazard, and the eventual scrapping or exhaustion of the property if it be perishable or exhaustible. But the essence of the process is the same. Present value comes from probable future value of income discounted or capitalized at the rates of interest appropriate to investments involving given risks or hazards.

This process of capitalizing or discounting expected future earnings is of fundamental importance. It is at once a cause or determinant of value and a method of valuation. Some writers regard it as the most pervasive and powerful causal factor in the field of value and price. They hold that the price of production goods can be

derived only from the value of the income which they produce. This is true in a sense. But it is also true that, in the case of reproducible production goods, the future income will depend upon and vary with the expense of producing the good. For instance, water may be an indispensable part of some new process of production which promises to earn millions. But this will not give a large price or value to water. If the expense of producing a supply of water is small, the price of water will be correspondingly small, despite the fact that it is an indispensable factor in this process which will yield millions of income. Expense of production or reproduction is as fundamental as capitalization; and the discount or interest rate and the demand factors lying behind the price of the ultimate product or consumption good, are as fundamental as either of the other two. Price or value is an equilibrium resulting from the combined operation of many causal factors among which satisfaction of want, expense or cost of production and the interest rate are of primary importance.

The process of capitalization or discount is widely used in the purchase and sale of real property, mines and going business concerns. But if property of the kind in question is freely bought and sold, more attention will be given to sales than to capitalization of earnings, largely because the verdict of the market, taking account, as it does, of all factors, is properly regarded as more significant than any analytical estimate of future possibilities. And where parts of the property or business are reproducible, — for example, tools in a mining property, railway cars belonging to a railway — cost or replacement cost will be used as the basis of valuation. Finally, much unused land has a price and value, not because anybody capitalizes or discounts its future income, but because its owners calculate in a rough way that some day it will be usable and, before that time, some other speculator will be willing to pay more than the cost to the present owner. It is a mistake to give to the process of price determination more precision than it has in real life; and an equal mistake to regard any one of a number of factors as determinative when all operate together. The essence of price determination and of modern economic life is equilibrium. *The balance between the various factors, and not the operation of any single*

one of them is what, for both theoretical and practical purposes, needs emphasis. From 1921 to 1927, for instance, the farmers of this country became more productive. They produced more goods at lower cost. But this productive efficiency injured them almost as much as it benefited them. The increase in efficiency was socially desirable; but because other factors were not adjusted correspondingly and contemporaneously, the result was agricultural depression.

Valuation. — The price at which a specified quantity of a given economic good is actually sold, is a *realized* price or market value. It is an accomplished fact. But it may tell us little about what the same good will probably sell for in the future or what it would have brought in the past if purchased in different quantity. A shrewd buyer frequently sells something that he purchased a day or few days previously for twice what he paid for it. The previous owner could have sold the good at a higher price if he had known its worth. The price in the first sale was obviously no trustworthy measure of that good's general power in exchange.

The term "market value" more frequently means general or future power in exchange, than past or realized power in exchange. In the case of standardized goods which are freely reproducible and freely sold, the general power in exchange will be determined, usually within narrow limits, by reference to past prices. Actual sales of approximately similar goods constitute relevant but not conclusive evidence of the general or potential value of goods which are not standardized and not reproducible in exactly the form and condition of the good to be valued. But in many other cases of great importance, a process of valuation must be employed, the object of which is usually, but not always, to determine what price probably would have resulted had the good been exchanged between a willing, informed and normal buyer and a similar seller. As we have pointed out, valuations of this kind play an important part in the causal process which determines the actual price or realized value at which many production goods exchange. Valuation, however, goes far beyond this and constitutes in itself an important field of great economic significance. It is only possible here to take a bird's-eye view of this field, by noting briefly some of the more important types or methods of valuation most frequently used.

1. Valuations made by engineers, accountants, appraisal companies, and business men as the basis of actual bids or offers. Such valuations attempt to reach actual market value and help to determine market value.

2. Valuation of assets and liabilities to serve as a basis for bank credit or for the issue of corporate bonds and securities. No sale of the underlying property is here contemplated, and the imputed value is not tested by actual exchange; but such valuations exercise a powerful influence on credit and investment. A related case is the revaluation or write-up of corporate property which has appreciated in value; such revaluations being made for or by the directors of corporations to serve as a basis of dividend distributions.

3. Valuation for taxation. Tax valuations are usually low, due frequently to the inefficiency of assessors or to political considerations. The conservatism of tax appraisals, however, is partly a result of their wholesale character. In some States, under the general property tax, nearly all property is theoretically supposed to be appraised periodically, and in other States each year. Under the income tax regulations all business property subject to depletion or depreciation must be valued. The valuations must be standardized and made according to rules applicable to thousands of related cases. Tax appraisals properly err on the side of conservatism or leniency. Where depreciation is involved leniency means high valuation. Tax appraisal is a wholesale job and there are few truths of greater practical consequence than this in the whole field of taxation.

4. Census and related estimates of social wealth. Here we impute or ascribe to huge aggregates of wealth, held for use and not for sale, values taken from the prices of goods actually sold. These are *imputed values*. As absolute magnitudes they mean little. But we may measure *changes* in wealth from figures or estimates which are known to be incomplete or affected by error, and for purposes of comparison or rough measurements of change, such estimates of social wealth are useful.

5. Valuations for condemnation or compensation in eminent domain. Such valuations are usually high. In general, what is valued is not merely the property itself but the loss sustained by the

owner in being deprived of his property. When a business property is condemned the owner is frequently compensated for loss of business while finding a new location.

6. Valuation for rate regulation or public utility control. Here the object is often not so much market value, as the market value that would have obtained if the public utility had charged "fair rates" and had received "a fair return." The specific object of such valuations is frequently to change the existing market value by reducing rates and earnings. In this field there are two distinct schools of thought; one inclining to *present value* and the other to *prudent investment*, as the basis of the "valuation." The first school would base the valuation upon the present reproduction cost with important modifications; the second upon the historical cost or investment with other modifications. The words "value" and "valuation" are unfortunately used in connection with this much debated subject, which is further discussed in Chapter XXXV.

7. Tariff valuations or "dutiable values." The purpose here is to determine the basis to which ad valorem tariff rates apply. These valuations are in part controlled by considerations of political policy; but they usually have as their object the "actual market value" of the imported merchandise; and in these cases tariff experience proves not only that estimated or general values frequently have more meaning than actual prices, but that the latter are intimately dependent upon numerous and subtle conditions of sale which make the "price of an article" highly indefinite unless we know under what conditions the article is sold. "Value" for the purposes of American tariff administration is conveniently defined in Section 402 of the Tariff Act of 1922, which will repay thoughtful reading by the student.

8. Other types of "judicial valuation" are listed as follows, in Professor J. C. Bonbright's able analysis.

(*a*) Measurement of damages in tort and in breach of contract; (*b*) measurement of insured losses of property; (*c*) liability of shareholders on stock issued for property at an overvaluation; (*d*) determination of the proper capitalization of public utilities subject to financial control by a public service commission; (*e*) determination of the fairness to the different classes of security holders of a proposed plan of consolidation or reorganization; (*f*) determination of upset price in a foreclosure sale or other judicial sale; (*g*) appraisal of corporate assets

under a statute granting to dissenting stockholders the right to a cash settlement; (*h*) suits for an accounting by a partnership or a trustee; (*i*) determination of the existence of "insolvency" as defined in the Federal Bankruptcy Act.[1]

There are many other types of valuation. The majority of these have their own special technique, often highly involved. For an adequate understanding of these methods the reader must be referred to the technical treatises on valuation. But enough has been said to illustrate and call attention to the following important truths:

A. Valuation exercises a profound influence in modern economic life, affecting ordinary prices only indirectly as a rule, but profoundly influencing property rights, business, and the entire distributive process.

B. Most of these valuations are estimates. The price or value that might be expected to obtain rests upon opinion and judgment. No more tangible or definite basis can be found. Valuations, like demand and supply curves, are of the stuff that dreams are made of — judgment, opinion, forecasts of the future. Upon such foundations rests the modern business world.

C. Market value changes with the quantity valued. A small block of shares may command a large premium if they would in a contest ensure control of the corporation. Ad valorem tariff duties usually apply to the actual market value. But it is necessary to specify that the market value or price applies to sales " in the usual wholesale quantities and in the ordinary course of trade." To impose the duty on the basis of the actual price paid would result in a highly unequal tariff burden; the large importer would pay less tax per unit than the small importer.

D. Valuation is purposeful. It changes with the object of the valuation. Here an important distinction must be observed. In a few cases of judicial valuation, it is deliberately intended to adopt a valuation which modifies what otherwise would be the market value. This is true of valuation for rate regulation and in a few other cases. But these cases are exceptions. Ordinarily, the appraiser or valuer has as his object to ascertain " the fair market

[1] "The Problem of Judicial Valuation," *Columbia Law Review*, Vol. XXVII p. 499.

price or value" or "the actual cash value" — the price that the property would bring "as between a willing buyer and a willing seller."

Even in the latter cases, valuation is said to differ with the purpose. One reason for this is found in the fact that the conditions of the actual or assumed sale differ subtly with the various types of valuations. A few illustrations will make this point clear:

(*a*) Ordinary industrial plant sales will usually be valued on the basis of the estimated cost of replacement in depreciated condition. This rule, however, depends on the assumption, usually valid, that time is not particularly important. The purchaser will build if the seller demands more than cost of replacement. But occasionally time is a factor of essential importance. During the late war old ships frequently sold for more than five times their replacement cost simply because enormous temporary profits from shipping could easily be secured. Replacement cost became irrelevant. A special time value was created.

(*b*) Where a going business is sold, account must be taken of good will, going concern value, organization value, and other like elements. Such values are sometimes disparaged, partly because they can be easily "faked" and partly because they are peculiarly perishable. But when these values are genuine they may be of controlling importance. In the dissolution of the American Tobacco Company, for instance, the brands and trademarks were valued, and not overvalued, at more than $60,000,000.

(*c*) The value of a thing is affected by the division or distribution of the property rights represented by the thing. An unimproved lot, title to which is represented by a ten-year lease and a freehold, is ordinarily worth more than the value of the lease plus the value of the freehold. Division of the bundle of rights affects the value of all the rights.

The courts frequently find an essential difference between the value of the stock of a corporation and the value of the net assets of the corporation as an entity. The stock quotations may be plentiful and in no sense artificial. But even in such cases the courts may recognize a great difference of value. Thus, in the case of Ray Consolidated Copper Company *v.* U. S., 268 U. S. 373,

the sales of stock — apparently normal and plentiful — plainly indicated a total value of less than $35,000,000, but the Supreme Court approved a total valuation of the capital stock (interpreted as synonymous with the net assets) of $55,828,541. This subject is thus discussed by Professor Bonbright in the article cited above.

Are the courts guilty of an economic fallacy in making this distinction between share value and asset value? In the first place, what the courts describe as a distinction between share value and asset value may possibly amount to nothing more than a distinction between the market value of the shares and the "intrinsic" value of these same shares. The courts may often distrust, and properly distrust, market quotations, even when these quotations are not "rigged," as not accurately representing the real merits of the security. But in that case, the important distinction is between market values and "intrinsic" values, not between share values and property values. There is reason to think, however, that some courts do not stop at this single distinction, and that they think of the value of the corporate assets as distinct from the value, however measured, of the outstanding securities. Is this distinction based on an illusion? Not necessarily. It may *seem* to be an illusion to anyone who thinks of the outstanding security issues as representing the sum total of the entire ownership interests in the property. But reflection will bear out the fact that no such assumption is justified. There are interests in the corporation, beneficiaries in its earning power and its assets, whose interests are never recorded on the stock books. Even if we leave out the wage earners on the assumption that they are receiving nothing from the corporation in excess of the value of their service which they give in exchange for their wages, we must still recognize the fact that directors or officers may be drawing salaries which represent, not a quid pro quo for services rendered, but rather their own favored position in the organization. These men may hold an extra legal but none the less valuable ownership interest in the corporate property which is not represented by the market values of the shares outstanding in the hands of the public. Because the total corporate property is yielding a net income to these insiders as well as to the formally recognized stockholders, the value of this property, taken as a whole, may well exceed the sum of the market values of all the securities with which the company is capitalized.[2]

The above facts and considerations are highly significant. The principal reason why valuation changes with the purpose is that the conditions of assumed sale vary subtly in different classes of valuations. Property rights are more important than the things owned. Things are surrounded by an aura of intangible rights and disabilities. What we value is a group or bundle of rights and obliga-

[2] "The Problem of Judicial Valuation," *Columbia Law Review*, *loc. cit.*

tions, frequently too subtle and intangible to be defined explicitly in an agreement of sale. Valuation depends upon the relation between men and things. Things as such are less important than the conditions arising out of man's relations with things and his desire for them.

Public Authority and Price. — In the Middle Ages there was considerable speculation by theologians and legists about the subject of " just price " — the ratio at which one thing *ought* to be exchanged for another. This idea denotes an important difference between the medieval and modern concept of value, Professor W. J. Ashley has put it clearly in these words: " With Aquinas, it [value] was something objective; something outside of the will of the individual purchaser or seller; something attached to the thing itself, existing whether he liked it or not, and that he ought to recognize. And as experience showed that individuals could not be trusted thus to admit the real value of things, it followed that it was the duty of the proper authorities of state, town, or gild to step in and determine it, and what the just and reasonable price really was."

This " just and reasonable price " was very often thought to be that price which would afford a reasonable compensation for the labor of the producer. When in more modern times such speculations began to yield precedence to inquiries into " natural laws," the idea of just price was supplanted by the idea of " natural price." Sometimes this was interpreted as determined by the labor put into a commodity (this was a dominant idea during the eighteenth century), but the growth of capitalistic production necessitated the recognition of other elements. In modern economic analysis the adjective " natural," with its misleading implications, has been abandoned. Yet the competitive system is today so thoroughly accepted as the " natural " economic order, that there is, as we have previously noted, a deep-seated conviction that normal competitive prices (measured by the expenses of production) are " natural and just " prices.

This conviction is, however, brought face to face with the fact of the growth of a large industrial field in which monopoly, rather than competition, rules. The question of just price is again a live issue

— as it was before the growth of the competitive system. Public authority is frequently invoked to insure that the prices fixed by holders of municipal franchises and other monopolists are just and reasonable.

The chief fundamental test which our courts are able to apply to the reasonableness of any particular price is its conformity to what the price would have been under competitive conditions. Thus it is often asked whether a particular monopoly charge gives a more than "normal" return upon the capital invested. Given the general acceptance of the competitive system, it is hard to see what other standard could be used. Moreover, the general consensus of recent court decisions is that the Fifth and Fourteenth Amendments to the Federal Constitution, prohibiting the taking of property without due process of law, prevent federal and state governments from going farther than this in the regulation of monopoly charges. And even this power is not conceded, except in the case of businesses affected with a distinct public interest, such as those conducted by so-called public service corporations. In practice, it has been found difficult to say just what is "normal return" upon an investment in a particular public service undertaking. It is often equally difficult to determine the amount of invested capital properly entitled to a "normal return." In the long run, however, public authority has to be guided by the practical rule that the return allowed must be satisfactorily attractive to investors, — otherwise the funds needed to maintain and extend our railways and public service industries will not be forthcoming. The practical aspects of this subject will be discussed in the following chapter.

Other Theories of Value. — The older economists used to emphasize the relation between the price of a thing and the amount or the expense of the labor spent in producing it, — a relation much closer under the old methods of hand production than it is at present. The development of a systematic labor theory of value was, however, the work of Karl Marx, the founder of modern "scientific" socialism. This theory is, in essence, that labor produces all value and that the interest on capital and the rent of land are deductions from the real wages of labor — deductions that are made possible only by the existence of the system of private property in producers'

goods. It is so obvious that things do not exchange today in proportion to the amount of labor involved in producing them, that to point this out in detail, as some economists have done, is unnecessary. Karl Marx himself recognized that his " values " were not measured by the actual prices of the market. They seem to have been conceived as some mysterious essence or quality in things. But economic science can recognize only the values that really exist — the actual values of the market. Nor can we say that things *ought* to exchange in proportion to their labor costs, without begging the whole question in favor of the abolition of private property in land and capital.

The relation between price and the expenses of production has sometimes been stated in such a way as to lead to the inference that the expenses of production *cause* or *create* value. The expense of production theory of price, when so stated, is open to much the same objections as the labor theory. Suppose I perfect a machine at the expense of ten thousand dollars which will blow soap bubbles at the rate of a thousand an hour. Will it be worth ten thousand dollars? Certainly not; but why not? To say that the labor and materials have not been wisely used is simply to say that the machine has no value, which is just what we are trying to explain. As a fact, it is not worth ten thousand dollars simply because no one is willing to give ten thousand dollars for it. The expenses of production do not create value, but there is a sense in which price " causes " the expenses of production. That is, men think it worth while to expend money in producing things because they think that the products will sell for enough to recompense them for the expenses of production.

Many of the economists who have written in the past about the subject of price took the facts of demand for granted, and contented themselves with examining the relation between price and the expenses of production. In more recent years economic writers have developed the analysis of human wants; the fact that utility in the economic sense is not utility in the abstract, but the utility of a particular unit of a commodity, being the most significant point in this new analysis. Some writers have even gone so far as to take the facts of supply for granted, and to assume that price is explained

when marginal utility is described. As a determining cause of price, utility has a logical priority over scarcity, in the sense that demand usually "causes" or elicits supply. Yet in the analysis of the actual price-making process we have to recognize that utility and scarcity, demand and supply, are forces operating simultaneously, neither of which can be neglected without obscuring the fundamental facts of the market.

Finally, in the economic world of today, we must recognize another determinant of prices — money. Money exercises an influence roughly comparable to that exerted by both demand and supply on other goods and services. Because of its importance money has been reserved for separate treatment in the chapters immediately following.

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CHAPTER XIII

MONEY

In a not altogether fanciful sense, money might be said to exercise on modern economic life an influence comparable with that exercised by all other economic factors combined. The justification for this arresting statement would run in some such terms as these: Our economic activities are dominated by prices and by related pecuniary considerations. But prices are mere ratios of exchange between money and other goods or services. Money, therefore, exercises as much influence as all other factors combined upon those price relations which guide and direct our economic activities.

While such reasoning is largely fanciful, it seems true that, in the long run, prices react as fully if not as quickly to monetary changes as to changes originating on the side of goods and services. The welfare of every purchaser and every seller of goods or services is thus vitally dependent upon the quality of money and upon the efficiency of the monetary mechanism.

Metallic Money. — The earliest and simplest forms of money were common commodities such as cattle, grain, furs, oil, salt, tobacco, ivory, shells, and tea. These have been used, at various times and places, for monetary purposes. But with the advance of civilization the *metals* have proved to be the best monetary commodities.

Metals, and especially the precious metals, have certain qualities that give them a peculiar fitness to serve as money. They are durable, easily recognized and tested, and may be divided into units of convenient form and weight. Moreover, as compared with most other commodities, the precious metals are relatively stable in value. This arises in part from their durability, for any one year's output of the mines makes but a comparatively small addition to the total stock of metallic money, and in part from the

nature of their non-monetary uses, for the demand for commodities that minister to our tastes for ornament and display is much more elastic than the demand for necessaries of life.

The Meaning of "Money." — In modern economic life many things besides coined metals are included, and properly included, under the name of money. But there is no definite dividing line between the things which are money and the things which are not money. A useful and important distinction, however, is implied in the very common practice of restricting the use of the name "money" to those (*instruments of general acceptability which pass freely from hand to hand as media of exchange*).

The particular things thus to be counted as money vary for different periods and for different countries. In the United States this generally acceptable medium of exchange includes the metallic money coined by the federal government, the paper money issued by it, and bank notes. Checks drawn by individuals upon their bank accounts are, by this test, not money, or money instruments, because they do not pass freely from hand to hand as media of exchange. They can be used only in making payments to persons who have confidence in the honesty and solvency of the one who tenders the check for payment.

Some things that are generally acceptable media of exchange are themselves *promises* (on the part of the government or of banks) to pay certain other forms of money on demand. But the important point is that the acceptability of such things does not depend upon the honesty or solvency of *the person who tenders them* in payment. So long as we have confidence in the solvency of the government and the banks, their coins and notes, issued in convenient and easily recognizable forms and denominations, are generally acceptable media of exchange, and, as such, are money. The use of the word "money," with the definite and limited meaning we have just discussed, has the sanction of a very common and prevalent usage; it corresponds, moreover, to the technical definition given to the word by many economic writers, and to the official usage of the United States Treasury. In this chapter the word "money" will be employed in this *restricted sense* of money instruments of general acceptability.

But the word is also often used in a much broader sense. We speak of " money funds," the " money market," " money expenditures," " investments of money," etc. And yet the " money market " is not primarily a place in which the generally acceptable media of exchange are bought and sold, nor is the fact that one's " money expenditures " amount to a given sum to be interpreted as meaning that one has actually paid out this amount in the generally acceptable media of exchange. Money, in this broad sense, includes credit in the form of *rights to receive money* (in the narrower sense just defined) *on demand*. In its broader sense it includes, in particular, checks, drafts, and other forms of *bank credit*. Some writers of standing even go beyond this and treat as money the *book credit* which dealers extend to their trustworthy customers; on the grounds that the principal function of money is to assist in the production and sale of goods and that whatever does the principal work of money must be treated as money.

Functions of Money. — At this point it will be helpful to note very briefly the principal functions of money. Money is above all the *medium* of exchange. This statement applies to money as an indispensable instrument in exchange, if we regard drafts and checks as money. But money is more than the accepted instrument of exchange; it is the *element* or medium in which exchange lives, breathes, and has its being. It is the language in which business not only talks but thinks. It is the practical workaday *standard or measure of value;* a shifting standard and at times a cruelly misleading standard, but one used thousands of times in actual life where other measures of value are used once.

The defects of money as a measure or standard of value apply particularly to money as a *standard of deferred payment* and as *a store of value*. We lend money for a term of years. On its repayment we may find that its purchasing power in consumption goods has fallen 50 per cent or has risen 25 per cent; and the same mischievous variability affects money which is hoarded. While extreme variations in purchasing power, such as those which characterized the German mark and the Russian ruble after the war, usually affect only paper money, the purchasing power of gold also varies, and sometimes rapidly.

Because of these fluctuations, economists, publicists, and business men are tending more and more to go back of money prices or their movements and interpret them by resorting to the device of the index number. The index number is briefly described in Chapter XVI. Here it is sufficient to say that the effect of interpreting or adjusting money prices by the ordinary index number of prices is to substitute for money as the standard or measure of value, a standard of purchasing power represented by a composite group of economic goods. The value of this composite group, being measured, in final analysis, by no other standard but itself, is usually assumed to be invariable. If, from time to time, the money buys a changing quantity of such goods, that is, if its purchasing power over the composite group changes, it is the money and not the group of goods which is assumed to change.

By means of the index number, changes in the purchasing power of money to well-defined classes of *consumers* may be measured with an exactness which approaches that attained by ordinary physical measurements of weight or length. The world owes an immense debt of gratitude to economists such as W. S. Jevons, C. M. Walsh, and Irving Fisher for their contributions in this field, for it would be hard to exaggerate the ultimate scientific and social importance of these contributions. But, as a measure of change in the *general price level*, and for use in the regulation of money and bank credit as they affect men in their productive activities, the index number of prices has essential limitations. Grave technical difficulties are involved in computing an index number which shall record from year to year the net or average change in retail and wholesale prices in rent, wages, salaries, and security prices of all kinds; it is, moreover, exceedingly hard to handle such a figure intelligently after it has been computed.

Other Functions. — Some recent writers have ascribed other essential functions to money. "The primary function of money[1] is to maintain the continuous maximum production of the kinds of goods consumers want and the continuous flow of those goods into consumers' hands. All other services of money are contributory to this function. The end-all and be-all of money is to keep the

[1] L. D. Edie, *Economics* (T. H. Crowell Co., New York, 1926), p. 502.

machinery of production going at full capacity and in proper balance. The money function is fundamentally a production function. Unless it sustains the maximum output of the commodities serviceable for human use, it fails to fulfill the duty which rests upon it."

Some useful ends are served by emphasizing the connection between money and production. This emphasis conveys the sound implication that elastic money or credit is an important factor in production; that money, unfortunately, cannot be trusted to take care of itself; that we have not done enough when we have adopted a gold standard free from the more obvious forms of monetary dishonesty. Events have forced upon us a system of money and banking that must be intelligently managed as an active and powerful factor in production and consumption.

But this point of view has its own dangers. It prompts us to seek the cure for all economic ills in monetary control. Like the quack who finds in some organ the exclusive seat of all bodily troubles, the money crank finds the seat of all economic ills in the circulatory system. That there is a disposition to exaggerate our knowledge of this circulatory system is revealed by the sharp difference of opinion and attitude found among those who may fairly be regarded as experts in the field of money and banking. Specifically, we know far less about the power of banking authorities, either private, public, or mixed, to regulate prices and business through monetary or credit control, than is often assumed. Our knowledge of index numbers is far less accurate than many economists and statisticians appear to realize; nor is it certain, at the present time, that index numbers can be helpfully applied in the control of money and credit. The management of money and credit is comparable in difficulty to the political management of nations. The forces at work are innumerable; and while logical analysis is indispensable in interpreting the application of past history to present problems, more reliance is to be placed on history than on theoretical analysis. The gold standard is, on the surface, neither logical nor efficient. The same criticisms apply to democracy. But both democracy and the gold standard display over the generations a practical strength which warns the analyst to be certain that he sees his

problem as a whole before he commits himself to a drastic change. There is frequently more wisdom, as Burke has said, in institutions than in men. In any event, some knowledge of money in its technical and historical aspects is the beginning of wisdom in this field.

The Varieties of Money. — In the United States the actual media of exchange comprise a variety of coins, made from different metals, together with several kinds of paper money of many different denominations. But all these various forms of money are alike in name, — that is, they are dollars, or multiples or fractions of a dollar, — and moreover, these various kinds of dollars are not distinguished, one from another, in the price lists. This familiar and very satisfactory condition of uniformity in the units in which we state prices does not, however, suggest to us the real nature of money in the way that a less perfect monetary system would.

Before the United States had an adequate monetary system of its own, the actual media of exchange consisted largely of English, French, Spanish, and Portuguese coins, and there were as many different ways of stating prices as there were varieties of money. Nor does the mere name of "dollar" give to different pieces of money a uniform purchasing power. In the United States we have had at different times "dollars" of unequal purchasing power.

What is it, then, that makes our present dollars alike in value? To say that various kinds of money are equal in value because they will purchase the same amounts of goods is, obviously, to argue in a circle. The true answer is found in the fact that they are *interchangeable*. So long as any number of kinds of money, all named in dollar units, are freely exchangeable, dollar for dollar, it is impossible that domestic prices stated in terms of one kind of money should be higher or lower than domestic prices stated in terms of any other kind of money. We do not have in mind the fact that different kinds of money are exchanged for each other at par in business transactions and in banking, for that is a result, rather than a cause, of their parity. The parity of our different kinds of money is maintained by the federal government.

All coins smaller than a dollar are by law exchangeable at the United States Treasury for "lawful money," which includes

TABLE IX

MONEY IN THE UNITED STATES: JUNE 30, 1928[2]

	IN TREASURY AND FEDERAL RESERVE BANKS	IN OTHER BANKS AND IN CIRCULATION	TOTAL
Gold coin and bullion	$3,732,135,207	$ 377,027,688	$4,109,162,895
Silver dollars	493,740,156	46,221,545	539,961,701
Subsidiary silver	20,835,137	278,175,094	299,010,231
Total metallic	$4,246,710,500	$ 701,424,327	$4,948,134,827
United States notes	$ 48,242,664	$ 298,438,352	$ 346,681,016
Federal reserve notes	376,377,958	1,626,432,872	2,002,810,830
Federal reserve bank notes	125,634	4,028,984	4,154,618
National bank notes	49,408,732	650,211,920	699,620,652
Total notes	$ 474,154,988	$2,579,112,128	$3,053,267,116
Aggregate metallic and notes	$4,720,865,488	$3,280,536,455	$8,001,401,943
Gold certificates	$ 494,582,280	$1,019,148,559	$ .....
Silver certificates	87,150,089	384,576,612	.....
Treasury notes of 1890	.....	1,303,600	.....
Total certificates and notes	$ 581,732,369	$1,405,028,771	.....
Aggregate	.....	$4,685,565,226	$8,001,401,943

government notes, silver dollars, and gold coins. Government notes, in turn, are simply promises to pay, which are redeemable in gold at the government treasury. While there is no definite legal mandate requiring the redemption of silver dollars in gold, yet the currency act of 1900 makes it the duty of the Secretary of the Treasury to maintain all other forms of money at a parity with gold — a requirement which means that he would have to redeem silver dollars in gold if such action should at any time be needed to maintain their parity. Gold certificates and silver certificates are simply a mechanism for putting gold and silver money into circulation in convenient form. They are analogous to warehouse

[2] *Finance Report*, 1928, p. 556.

receipts, because they represent gold coins and bars of gold bullion and silver dollars that are stored in the government treasury, and which may be obtained at any time in exchange for the certificates. Bank notes (including federal reserve notes and national bank notes) are redeemed by the federal treasury, which for this purpose acts as an agent of the banks which have issued the notes. In practice the government is continually receiving all kinds of money, including silver dollars, and exchanging other kinds of money for them. *The significant thing is that all other kinds of money are exchangeable, directly or indirectly, for gold coin.*

The Monetary Standard. — In the case of gold coin, there is a further kind of exchangeability — *the unlimited and free convertibility of gold and gold bullion.* So long as any one can secure gold coin from the mints in any amount for the same weight of gold bullion of standard fineness, and so long as gold coin can be freely melted down into gold bullion, it is impossible that there should be any appreciable difference between the value of a gold coin and the value of its metallic content.

Gold coins, because their value as bullion is equal to their value as coins, constitute *standard money.* The gold dollar weighing 25.8 grains and containing 23.22 grains of fine gold is by law the *monetary unit,* that is, the dollars in terms of which prices are stated are gold dollars or are maintained at a parity with gold dollars. The coinage of the gold dollar was discontinued in 1890, but our other gold coins contain just 23.22 grains of gold per dollar. Gold, whether in coin or bullion, constitutes the *monetary standard,* for the value of any dollar must be equal to the value of the gold in a gold dollar. The monetary standard is thus a commodity which the government *buys and sells at a fixed price.* It pays a fixed price at the mint; it sells for a fixed price at the treasury, by exchanging it for other forms of money. The recording of prices in terms of dollars through the exchange of goods and services for money of different sorts, the maintenance of the parity of dollars in all varieties of money through their exchangeability, and the automatic equating of the value of the dollar to the value of 25.8 grains of gold bullion; — these are the fundamental facts of our monetary system.

Seigniorage. — Sovereigns in the past too often viewed the monopoly of coinage as an opportunity for personal profit. By calling in the stock of metallic money in the country for recoinage, and then reducing the weights of coins without changing their names, they could increase the number of coins, netting a handsome profit for the royal treasury. Debasing the currency was a favorite expedient of Henry VIII, of England, and of Philip the Fair and Louis XIV, of France.

Somewhat less reprehensible in theory, although amounting to about the same thing in its effects, was the common practice of making a charge for the coinage of standard money, called *seigniorage*. This practice was based on the idea that it was possible to maintain a difference between the value of a standard coin and the value of the bullion put into it.[3]

The fundamental difficulty with seigniorage was found to be that in foreign trade coins passed current only as bullion, so that when seigniorage was charged, the prices of imported or exportable goods, expressed in money, were necessarily higher than their prices expressed in bullion, by an amount equal to the seigniorage. It was impossible that one ratio of exchange could long be maintained between coined money and bullion in domestic trade and another ratio of exchange in foreign trade. Money prices always rose; that is, the value of the coins sank to the level of the value of the bullion they *contained*. Under these conditions no one would voluntarily undergo the loss by taking bullion to the mint for coinage, and so the profits from coinage stopped. Every possible expedient, short of absolutely prohibiting foreign trade, was tried by sovereigns in their efforts to retain their profits. But market forces were found to be stronger than royal regulations.

Modern nations do not attempt to secure profits from their monopoly of the coinage. Since 1666 England has made no charge for coining bullion into standard money. Most of the countries of continental Europe make a charge just sufficient to cover the expense of coinage. This charge is sometimes called seigniorage, but it is usually, and more properly, called *brassage*.

[3] Under Philip the Fair, the seigniorage charge went as high as 50 per cent. Charges of from 2 to 15 per cent were more common.

The United States made no coinage charge until 1853, when a charge of one half of 1 per cent was made for coining standard money. This was reduced in 1873 and abandoned in 1875. At present the United States exchanges gold coins, weight for weight, for bullion of standard fineness (nine tenths gold, one tenth copper) brought to the mint in lots of one hundred dollars or more in value. For crude bullion, or bullion not of standard fineness, gold coins are exchanged containing as much fine gold as is contained in the bullion, less a trifling charge for assaying, refining, and for the alloy.

Instead of viewing coinage as a profitable prerogative of the government, we have come to view it as a government duty, to be performed at government expense. The coinage of standard money is now in law what it always has been in fact, — a device for dividing the standard money metal into convenient units of certified weight and fineness.

Limited Coinage. — Gold is the only metal made into coins by the United States government for any one who deposits bullion at the mints or assay offices. All other coins are made from metal purchased from time to time as Congress directs. In none of these other coins is the bullion worth as much as the coin. Such coins are sometimes called " token coins," the implication being that the fact that they pass from hand to hand at their full nominal value is merely a matter of habit or usage, supported by general acquiescence. More accurately, they are *credit coins*, because the excess of their coin value over their bullion value depends ultimately upon the good faith and credit of the government. In principle, our silver dollars and our subsidiary silver coins would serve their purposes just as well if they were made of some cheaper metal. The use of the cheaper metal, however, might make counterfeiting easier and more profitable.

A very considerable profit accrues to the government from limited coinage. In the accounts of the federal treasury this profit is called seigniorage, but it should be distinguished from real seigniorage, — a profitable charge exacted for the conversion of standard bullion into standard coin.

Bimetallism. — A monetary system like that of the United

States is monometallic, because only one commodity is used as a monetary standard. The *bimetallic* system, under which both gold and silver serve concurrently as legal monetary standards, has, however, been used in the past by many governments, including our own.

Under bimetallism the dollar would be defined as *either* a definite amount of gold or a definite amount of silver. In practice this would mean the opening of the mints to the unlimited coinage of both gold and silver into dollars, or dollar multiples, the amount of silver in a silver dollar and the amount of gold in a gold dollar being established by law, the ratio of one amount to the other being called the *mint ratio*.

Most opponents of bimetallism, while admitting that, if feasible, it might possess some advantages, deny its possibility. The difficulty is, they maintain, that while the *mint ratio* (the ratio of the weight of silver in the monetary unit to the weight of gold in the monetary unit) has to be fixed and definite, the *market ratio* at which gold exchanges for silver is not fixed and definite, but is subject to the changing influences of supply and demand. If one metal is relatively underappraised and the other relatively overappraised by the mint ratio, only the overappraised metal will be brought to the mint for coinage, for the underappraised metal will be worth no more than the overappraised one as coin, but will be worth more as bullion. The result will be, not a bimetallic standard, but a single standard composed of the metal which, at the mint ratio, is the cheaper. Moreover, if, by a change in the market ratios of exchange of the two metals, that one in turn becomes underappraised by the mint ratio, the standard coins composed of that metal which are already in use will disappear from circulation, being hoarded, melted down, or exported, and the other metal will take its place as the actual standard of value. The opponents of bimetallism claim, in short, that it encounters a formidable obstacle in the principle known as *Gresham's law*, which is usually summarized with rough accuracy in the statement that "bad money drives out good," or that "the cheaper money drives out the dearer."

The weightiest argument for bimetallism is found in its so-called

compensatory action, which is explained substantially as follows: If the market ratio should change, leaving one of the metals somewhat overappraised by the mint ratio, Gresham's law would *begin* to operate. But its operation would speedily be checked. The metal underappraised by the mint ratio would be thrown upon the market; it would be available for industrial uses and for export. The other metal would be drained from the market into monetary uses. The market cannot presume to be indefinitely elastic. It will not absorb large additional supplies of the one metal except at a lower price. It cannot lose large quantities of the other metal without a marked increase in its price. In other words, the flow of one metal out of circulation and the flow of the other into circulation will hardly have been begun without tending to correct, or even to overcorrect, the original divergence of the market ratio from the mint ratio. If the pendulum swings too far in the other direction, similar forces will be brought into operation, so that the net effect of the compensatory action of bimetallism would be, it is claimed, a continuous *tendency* on the part of the market ratio to agree with the mint ratio.

The appeal to history has been used both by bimetallists and their opponents. The claim of the monometallists that legal bimetallism is apt to mean actual monometallism, with the relatively cheaper metal as the standard, has been substantiated many times in the monetary experience of different nations. On the other hand, the bimetallists are able to point to some fairly successful bimetallic systems, such as that of France in the first half of the nineteenth century. But it would hardly be possible for any nation independently to maintain the double standard under the present conditions of a large and fluctuating annual production of the precious metals, coupled with an international commerce of vast proportions.

Bimetallism in the United States. — The national monetary system was established by act of Congress in 1792.[4] The mint was opened to the free and unlimited coinage of both gold and silver, the silver coins containing $371\frac{1}{4}$ grains of fine metal per

[4] The act of 1792 followed in detail the recommendations of a Report on the Establishment of a Mint, by Alexander Hamilton, then Secretary of the Treasury. Hamilton incorporated some of the recommendations contained in earlier reports by Robert Morris and Thomas Jefferson.

dollar, and the gold coins 24¾ grains per dollar, the ratio of 15 to 1 being thus established. It was soon found, however, that gold was worth in the market slightly more than fifteen times as much as silver, and as a consequence but little gold was brought to the mint for coinage.

Silver dollars, too, disappeared from circulation, but for another reason. Although somewhat lighter than the Spanish dollars which were in general circulation at the time, they could, on account of their new and attractive appearance, be used advantageously in trade with the Spanish possessions in America. They were taken from the country for that purpose, while the heavier Spanish dollars were brought back. This wasteful coinage of silver dollars was stopped in 1804, leaving the mint open to the coinage only of gold, smaller silver coins, and minor coins. American coins were only an insignificant part of our circulating medium before 1834.

In order to secure a gold coinage, Congress, in 1834, changed the legal ratio to 16 to 1 by reducing the weight of the gold dollar. By this step, however, it went too far in the other direction, for gold was not worth in the market quite sixteen times as much as silver. Although the number of gold coins increased, little silver was brought to the mint, and silver coins quickly disappeared from circulation. To provide an adequate supply of small change, Congress, in 1853, abandoned the principle of the unlimited coinage of silver coins smaller than a dollar, and ordered that they should be coined, as at present, only from bullion purchased by the government at the market price. At the same time the weight of these subsidiary coins was reduced by 6.91 per cent to insure their being retained in circulation, and, in 1873, to 6.47 per cent.

The discovery of gold in California, in 1848, and in Australia, in 1851, suddenly increased the world's supply of gold by an unprecedented amount. The careful estimates of Dr. Adolf Soetbeer indicate that as much gold was produced in the third quarter of the nineteenth century as in the preceding three centuries and a half following the discovery of America. The result was to increase the discrepancy between the mint ratio and the actual market ratio of exchange of gold and silver, even though the

production of silver had also been greatly increased. Gold was brought to the mint in enormous amounts.

In a general revision of the coinage laws, made in 1873, the silver dollar was dropped from the list of coins that could be manufactured at the mint. Although this action was almost unnoticed at the time, a fictitious significance was, in subsequent years, attached to it. It was repeatedly condemned as the "Crime of 1873," though the law merely gave legal recognition to an existing fact.

But a sudden depreciation in the value of silver, which began at about this time, brought the question of bimetallism again into the foreground. Since the seventeenth century the market ratios of gold and silver had fluctuated only between relatively narrow margins, and in no year since the establishment of the United States mint had the average annual price of an ounce of gold been less than 15 or more than $16\frac{1}{4}$ times the price of an ounce of silver. In 1875, however, the market ratio rose to 17 to 1; by 1878 it was 18 to 1; by 1886 it was 21 to 1; and in 1894 it was 33 to 1.[5] It is clear that if the opportunity for the free and unlimited coinage of silver at the ratio of 16 to 1 had still existed, there would have been another sudden change in the actual monetary standard. Gold would have been underappraised by that ratio, and would have disappeared from circulation, and silver would have taken its place. It was the realization of this fact, coupled with the knowledge that the silver standard would mean a "cheaper dollar," that led to a popular agitation for the free and unlimited coinage of silver which continued for more than twenty years.

Compromise Measures. — The Bland-Allison Act, passed by Congress in 1878, which authorized the Secretary of the Treasury to purchase at market prices not less than $2,000,000 nor more than $4,000,000 worth of silver bullion per month, and to coin it into dollars, satisfied no one. The amount of silver coined was in

[5] The causes of this unprecedented decline in the relative value of one of the precious metals were complex and intricate. The following may be mentioned, however, as contributing circumstances: (1) Cessation of an extraordinary demand for silver in India which had existed since 1850; (2) Stoppage of the unlimited coinage of silver in several European countries; (3) Discovery of large silver mines in the United States, (4) Increase in the value of gold, as evidenced by a general decrease in the prices of commodities.

excess of the demand for that particular kind of money. The movement in favor of the unlimited coinage of silver continued to gain in strength, however, its advocates claiming that "more silver," rather than less, was needed.

A second compromise was effected in the Sherman Silver-Purchase Act of 1890, which provided for an increase in the amount of silver purchased to 4,500,000 ounces each month, which was to be paid for in *treasury notes*. These treasury notes were to be full legal tender, and were redeemable in gold or silver coin at the discretion of the Secretary of the Treasury. The silver was to be coined only so rapidly as was found necessary for the redemption of the treasury notes.

The Sherman Act was soon tested by a period of business depression. Gold had to be exported to settle an adverse balance of trade. Bankers presented the new treasury notes, together with other forms of money, at the federal treasury and asked that they be redeemed in gold. Under the law the treasury might have insisted upon paying them in silver. But, at the urgent insistence of President Cleveland, the government did not avail itself of this option. A refusal to redeem them in gold might have destroyed the parity of our gold and silver coins; very certainly it would have injured the credit of the government. The government found difficulty in maintaining its own gold reserve, already seriously threatened by an excess of federal expenditures over receipts. Under the operations of the Sherman Act, the treasury was virtually exchanging gold coin for silver bullion at a time when gold was sorely needed and when the silver, steadily decreasing in value, remained idle and useless in its vaults. In June, 1893, the mints of India were closed to the unlimited coinage of silver. This gave a new impetus to the downward movement of that metal. The government's gold reserve continued to decrease, and finally Congress, in a special session called in 1893, ordered that the purchase of silver under the Sherman Act be stopped.

The agitation for the free and unlimited coinage of silver continued however, and with increased vigor, and it was made the sole issue in the presidential campaign of 1896. It was alleged that the yet continuing industrial depression could be alleviated

only by "more money" and "cheaper money." The most effective argument of the protagonists of silver was found, however, in the admitted fact that the value of gold, as shown by changes in the general price level, had been increasing. This, it was argued, was a hardship to those who had borrowed money on long time obligations, such as mortgages, because they would be forced to repay in value or purchasing power more than they had borrowed. The defeat of the advocates of bimetallism in 1896 would probably not have stopped the agitation for the unlimited coinage of silver, had it not been for an enormous increase in the world's annual production of gold, which brought with it a general increase in prices.

The Later History of the Silver Dollar. — Although the United States had virtually been on the gold standard since 1834, that standard was first formally and definitely recognized by law in 1900. Up to 1873 the silver-dollar coinage had amounted only to $8,000,000. The coinage under the Bland-Allison Act was $378,000,000, and under the Sherman Act $187,000,000. Coinage of dollars under the Sherman Act continued until 1904, when the bullion that had been purchased between 1890 and 1893 was exhausted. This was the end, for the time being at least, of the forced increase of our silver currency. But just at the close of the World War another chapter was added to the history of the silver dollar.

In the first place, the war increased the monetary demand for silver. The organization of armies, their mobilization in large camps, the operations of the new "war industries," and, most of all, the rising price level increased the demand for small change. The subsidiary coinage of all important countries was greatly increased.

In the second place, the world's production of silver fell off, largely by reason of unsettled political conditions in Mexico. The effects of the resulting increase in the price of silver were felt especially in British India, where more silver coin is in circulation than in any other country. In September, 1917, the United States mint had to pay $1.16 per ounce for silver. Silver had not reached so high a price since 1878. At the price of $1.30 per ounce,

the bullion in a silver dollar would be worth more than a dollar, and the coins might be melted down or exported. The price of silver did not then reach that level,[6] but it did go high enough so that it became profitable in India to convert silver rupees into bullion. The Indian government then increased the redemption value (in British currency) of the silver rupee. India had already obtained enormous quantities of silver from China, whose people were induced by the high prices offered to export some of their vast stores of that metal. Nevertheless, the increasing scarcity of currency led the Indian people to hoard silver, and this, of course, merely increased their difficulties. The British and Indian governments finally turned to the United States for aid.

Of our total stock of 568,000,000 silver dollars, over 490,000,000 were held in the federal treasury and represented in circulation by silver certificates. Here was an enormous stock of silver which could be utilized in the emergency. The Pittman Act of April, 1918, authorized the treasury to melt and sell these silver dollars, up to the amount of 350,000,000, at a price not less than a dollar per ounce. In the meanwhile, the silver certificates covered by these dollars were to be withdrawn from circulation, their place being taken by a special issue of federal reserve bank notes, secured by short-time obligations of the federal treasury. The melted coins, however, were speedily to be replaced by dollars coined from silver from American mines purchased at the fixed price of a dollar per ounce.

Altogether a little more than 270,000,000 silver dollars were melted down under the provisions of the Pittman Act. Of the bullion thus secured some was used in making subsidiary coins, but the greater part was sold to the British government for the use of the government of India. As the new dollars coined from domestic silver became available, silver certificates were issued against them,

[6] On November 25, 1919, the price of silver in New York rose to $1.38\frac{1}{4}$, — equivalent to a market ratio between gold and silver of $14\frac{1}{2}$ to 1, the lowest recorded in modern times. Until March, 1920, the price of silver remained above the melting point for dollars. During this period, about 29,000,000 silver dollars were exported. The silver coins of many countries practically disappeared from circulation. The immediate cause seems to have been the importation of large quantities of silver by China to replace stocks which had been exported to India and other countries.

and bank notes withdrawn from circulation. From May, 1920, to June, 1923, the Treasury purchased silver at one dollar per ounce as required by the Pittman Act, " while the market rate during this time was usually below 70 cents." The recoinage of silver dollars began in 1921 and continued until April, 1928, " when all of the silver dollars melted had been recoined." [7]

The Gold-Exchange Standard. — The change from a silver to a gold standard is often a difficult and expensive national undertaking, but it brings the advantages of a more stable unit of value and of increased facility in making international payments. In 1929 the silver standard prevailed only in China, Indo-China, Persia, Abyssinia, and Honduras.

In a number of places in which it is impossible, for one reason or another, to introduce gold as part of the actual medium of exchange, the silver standard has been replaced by the *gold-exchange standard*. Where this standard exists the currency of the country consists largely of silver coins, put into circulation by a system of limited coinage. These coins are maintained at a fairly definite gold value, higher than that of their bullion content. This is not accomplished, however, by making them redeemable in fixed quantities of gold. Instead the government sells exchange on one or more gold-using countries at a maximum fixed price. That is, the local currency is redeemable in bills of exchange or drafts payable in gold in some foreign country. It is necessary, of course, for the home government to maintain funds for this purpose in a gold-using country. The peso of the Philippines, containing only about three fourths as much silver as the silver dollar of the United States, is maintained at a gold value of approximately fifty cents by the insular government's accepting it at that price (minus a small charge) in exchange for drafts payable in New York. The gold-exchange standard has been adopted in India, the Philippines, Panama, Siam, the Straits Settlements, and (in a modified form) in Java. Where carefully administered it has worked well, and has brought to the countries using it practically all of the advantages of the gold standard without the expense of introducing and maintaining a gold currency and sometimes without making it

[7] *Finance Report*, 1928, pp. 73–74.

necessary for the people to familiarize themselves with a new kind of money. During the monetary upheavals attending the World War the gold-exchange standard encountered difficulties, and in some cases it ceased to be a *gold*-exchange standard.

Government Paper Money. — In metallic money of limited coinage, there is, as we have seen, a considerable element of credit. In paper money the element of credit is alone present. Government paper money is usually composed of instruments which bind the government to pay, and ordinarily to pay on demand, equivalent amounts of metallic money, — usually standard money.

Government paper money also differs from metallic money of limited coinage in respect to the *motives* which prompt and govern its issue. Subsidiary coins are issued by the government for use in small transactions and in making change. The public convenience is the first consideration; the profit accruing to the government is secondary. In issuing government paper money, however, fiscal motives have predominated. When hard pressed by increasing expenditures, governments have often used their own notes, their *promises to pay*, to discharge their obligations. Government notes differ from government bonds, often issued in similar circumstances, in that the bonds bear interest, are sold to voluntary buyers, and are usually payable at a definite time in the future, while the notes are usually non-interest bearing, represent a *forced* rather than a voluntary loan, and are usually, in form at least, payable on demand. They are, moreover, issued in convenient form for monetary use, and are usually made legal tender, with the intent that they shall pass from hand to hand as a medium of exchange.

Colonial and Revolutionary Bills of Credit. — Paper money issues have often been used in the United States to meet fiscal emergencies, especially the extraordinary expenditures occasioned by wars. The expense of sending troops to the Indian wars was one of the things that led most of the American colonies to issue paper money. The history of these colonial bills of credit, as they were called, illustrates two dangers that seem to be inseparable from the use of government notes as money. In the first place, it was very easy to succumb to the temptation of paying ordinary as well as extraordinary expenditures in this easy way. Some of

the colonies got entirely out of the habit of taxing themselves to meet current public expenses. The refusal to levy taxes was a prolific cause of disputes between colonial assemblies and royal governors.

In the second place, because no money was raised for the purpose, these bills of credit were not redeemed promptly. Their purchasing power fell as their quantity increased and as people lost confidence in them. As prices rose it took continually larger issues to meet government expenditures, and each increase led to a further fall in purchasing power. After the currency had become practically worthless, it was a common practice to repudiate it in whole or in part, and to start afresh with bills of a " new tenor." Any attempt to restrict this reckless use of public credit was met with determined resistance from the " cheap money " advocates of that day. There were frequent complaints of the scarcity of money, especially from newly settled districts. The greater the quantity of money issued, the more insistent was the demand for yet further issues. In short, this colonial experience in itself gives sufficient basis for the inference that from the monetary as well as the fiscal point of view, the use of paper money easily degenerates into a bad habit.

Again, in the Revolutionary War, paper-money issues were made, — this time by the Continental Congress as well as by the individual colonies. The Continental Congress was virtually driven to this action by its lack of the power of levying taxes. Its bills became practically worthless, although every effort was made to maintain their parity with metallic money by appeals to patriotic sentiment. After the national government was formed a few of them were redeemed at one cent on the dollar.

Our colonial and revolutionary experience with paper money led to the insertion of the wise provision in the federal Constitution which forbids the individual states to issue bills of credit or to make anything but gold and silver legal tender in payment of debts.

The Greenbacks. — The federal government made no important issues of paper money until the Civil War. It was not generally foreseen that that conflict would be so long continued and hard fought as it was, and Congress consequently neglected to make adequate provision for taxes that would help to meet the increased

expenditures and to sustain the government credit in the borrowing operations that became necessary. In 1861 the withdrawal of gold from the banks by depositors for hoarding, and by the government for its own uses, led first the banks and then the government to suspend specie payments, — that is, to refuse to pay their current obligations in gold.

In February, 1862, moved by the absolute necessity of providing some kind of money for the federal treasury, Congress authorized the issue of $150,000,000 in legal tender notes, or greenbacks, as they came to be called. It was hoped, moreover, that this increase in the circulating medium would improve the market for government bonds for which the greenbacks were at first made convertible at par. At first there was strenuous opposition on the part of those who foresaw some of the disastrous consequences of large paper money issues. But as in earlier American experience with paper money, succeeding issues met with less and less resistance. All together, greenbacks to the amount of $450,000,000 were issued during the war.

It was generally expected when the greenbacks were issued that they would be retired soon after the conclusion of the war. But when it really became possible, such action was opposed by many who thought that the reduction of the circulating medium would decrease prices, impose additional burdens upon debtors, injure business interests, reduce the public revenues, and hamper the government in the refunding of its public debt. In 1874 a bill requiring the increase of the issue was prevented from becoming law and thus establishing a dangerous precedent only by the veto of President Grant.

Some greenbacks were retired under the provisions of an act of 1875, but in May, 1878, there were $346,681,000 outstanding, and as a law then enacted provides for their constant reissue after being received or redeemed at the treasury, the amount still stands at that figure. The currency act of 1900 provides for a gold reserve of $150,000,000, to be held against them to insure their redeemability.

Economic Effects of the Greenbacks. — During the period of the suspension of specie payments (1861–1878) gold was not in

general circulation as a medium of exchange except on the Pacific coast. Gold was, however, in addition to its industrial uses, employed in paying balances in international trade, in the payment of interest on government bonds, and for customs duties (for which the greenbacks were not legally receivable). The constant demand for gold money was met by its sale as a commodity in the New York market. The prices paid for gold indicated very accurately, in the long run, how much, in the expert judgment of market specialists, the greenbacks should be discounted as compared with gold.

Everything that was thought to affect the probability of the ultimate redemption of the greenbacks in gold influenced their price. Among these factors were the quantity of greenbacks issued, the condition of the federal treasury, the military successes and reverses of the Union cause, and, in later years, the prospects for the resumption of specie payments. Greenbacks reached a parity with gold two weeks before the resumption of specie payments on January 1, 1879.

As the common medium of exchange consisted almost entirely of greenbacks and of bank notes convertible only into greenbacks, prices were stated in greenback "dollars" and naturally rose as the gold value of the greenback depreciated. Reference to the table on the next page will show a rough correspondence between changes in the general level of prices, expressed in greenbacks, and changes in the price of gold, also expressed in greenbacks. But the wholesale prices of commodities rose relatively higher than did the price of gold, and declined less rapidly. Retail prices, in turn, declined less rapidly than did wholesale prices. Wages advanced more slowly than prices; maximum wages were not paid until 1872, — seven years after retail prices and eight years after wholesale prices had reached their maximum.

As a fiscal expedient, the greenbacks led to results as disastrous as those which attended their use as money. The government was forced to sell bonds for depreciated greenbacks, but in order to maintain its credit it had to pay the interest and ultimately the principal of these bonds in gold. Supplies for the army were paid for in depreciated greenbacks, but these greenbacks had to be

TABLE X

RELATIVE PRICES AND WAGES IN THE GREENBACK PERIOD [8]

YEAR	AVERAGE ANNUAL PRICE OF GOLD IN GREENBACKS	JULY WHOLESALE PRICES [a]	AVERAGE ANNUAL PRICES [b]		AVERAGE WAGES [c]
			Wholesale	Retail	
1860	—	100	100	100	100
1861	—	95	94	107	99
1862	113.3	120	109	131	104
1863	145.2	155	148	168	119
1864	203.3	236	225	215	142
1865	157.3	183	224	219	155
1866	140.9	191	203	208	164
1867	138.2	170	177	193	167
1868	139.7	165	180	190	170
1869	133.0	158	172	177	179
1870	114.9	145	156	166	179
1871	111.7	137	144	155	184
1872	112.4	139	138	151	185
1873	113.8	140	143	148	183
1874	111.2	138	144	145	175
1875	114.9	129	134	140	163
1876	111.5	118	120	135	153
1877	104.8	114	117	134	143
1878	100.8	99	99	127	142
1879	100.0	98	93	123	139

[a] 92 commodities. [b] 21 commodities. [c] For 78 establishments.

ultimately redeemed in gold. It has been estimated that the use of the greenbacks increased the expenses of the government during the Civil War by nearly $600,000,000.

Fiat Money. — During the Greenback Period, the advocates of cheap money went so far as to urge that the use of metallic money should be permanently abandoned. Bank notes, because they were issued by "privileged corporations," were likewise to be

[8] Compiled from *Gold, Prices, and Wages under the Greenback Standard*, by Wesley C. Mitchell (University of California Press, Berkeley, 1908). The figures in the price columns are obtained by counting the price of each commodity in each year as a percentage of its price in 1860, and then averaging the various *relative prices* thus obtained for each year. The figures in the wage column are computed in a similar way. In the "price of gold" column parity between greenbacks and gold is represented by 100.

abolished. Greenbacks, greatly increased in amount, should constitute the sole circulating medium. The Greenback Party, organized in 1876, voiced such demands. It figured in three presidential campaigns and polled more than a million votes in the Congressional elections of 1878.

The theory of money which lay back of the program of the Greenback Party is sometimes called the "fiat money" theory. According to this theory, there is no particular significance to be attached to the fact that the greenbacks were in form *notes* or promises to pay, or to the fact that they were commonly regarded as only temporarily irredeemable. They were, in this view, merely "dollars," made such by the expressed will or fiat of the government.

There are two important questions with respect to fiat money: (1) Is such money, completely dissociated from any fixed monetary standard, possible? (2) If possible, would it be desirable? Would it have advantages over other kinds of money? Of these two questions, the first is particularly difficult. In considering it, we must be careful not to be misled by the associations which we naturally attach to the names and denominations of the money with which we are familiar. Suppose, for example, that the federal government should sweep away our present monetary system and institute a new monetary unit — possibly (to reverse the spelling) a "rallod." Would people use pieces of printed paper certified to be "rallods" as money? It has been suggested that to make such money receivable in the payment of taxes or redeemable in interest-bearing government bonds would help to keep it in circulation at a fairly stable value. But, it should be noted, the taxes themselves would have to be assessed in terms of rallods and the bonds would be promises to pay interest and principal in rallods.

Such considerations, however, should not be taken to mean that irredeemable paper money issued in familiar denominations may not circulate for some time among people accustomed to its use, even if there is no real prospect that it ever will be redeemed. The chief practical difficulties would occur in foreign trade, and in general they are such as have already been discussed in connection with the subject of seigniorage. Fiat money, in fact, may properly

be viewed as money which has been subjected to a seigniorage charge of 100 per cent.

In the second place, even if fiat money were practicable, would it be desirable? The supply of gold, as we have seen, is subject to variations arising from such influences as the discovery of new deposits, the exhaustion of old ones, and changes in the methods of handling the ores. Variations in gold production are reflected in movements of the general level of prices. The supply of fiat money, it is argued, could be arbitrarily controlled by the government and its purchasing power could be kept more nearly stable. Closely scrutinized, this particular argument for fiat money turns into the strongest of the arguments against it. Under practical conditions, experience has shown, governments find it much easier to expand than to contract their issues of paper money. Expansion permits larger expenditures; it is, for the time being, a substitute for taxation; it raises prices and stimulates business. Contraction, on the other hand, is effected at the expense of an immediate increase in taxation; it calls for rigid economy on the part of the government; it has for the time being a depressing effect upon business activities. With all of its shortcomings, the gold standard has the great advantage that its variations, largely the result of the play of the forces of the market, are beyond the arbitrary control of government.

Present Problems. — The unceasing monetary debates which marked the last quarter of the nineteenth century apparently taught the American people useful lessons. During the World War there was, at least, never any serious proposal to debase the currency in the old familiar ways, or to pay the expenses of the war by the issue of paper money.

But we did pay considerably more than half of the war expenses by the expansion of bank credit; and bank credit continued to expand after the war as a cause or result, or both, of the speculative boom of 1919–20. Today we are fighting the old battles in terms of credit rather than of gold and silver. As in the old historic fight for free silver there are those who vehemently demand more and cheaper credit; those who want contraction and dearer credit; those who oppose active regulation of credit; those who would

extend control; and those who doubt the practicability of exercising control in any precise or effective way. The new controversies deal largely with the policies of the Federal Reserve Board and its control of the rediscount rate. For an understanding of these problems, some knowledge of credit and the principles of banking is essential.

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CHAPTER XIV

CREDIT AND BANKING

Credit Transactions. — Thus far, in our discussion of money, we have failed to take account of the fact that the greater part of exchanges are credit transactions, which do not directly or immediately involve the use of money (in the restricted sense of generally acceptable money instruments). A credit transaction is a transfer of goods, services, or money for a future equivalent. In a " cash " transaction there are only two elements, — the goods sold and the money paid for them. But in a credit transaction a third element — time — is added. The introduction of this third element has exceedingly important results. In the first place it makes possible an enormous number of exchanges in which the buyer is either unable or disinclined to render a present equivalent. In the second place it obviates, to a very large extent, the necessity of making payments, even final payments, in money.

Suppose, for example, that A and B are the only inhabitants of an isolated place. Three ways of making exchanges are open to them. They may use a system of direct exchange or barter, which will prevent A from getting goods from B unless he has some equivalent which he is willing to give up and which B is willing to accept. Or, they may use one commodity as money, in which case the purchasing power of either A or B at any given time will be governed by the amount of that particular commodity he possesses, rather than by the total amount of all his possessions. But by combining a system of credit with their use of money, they will be able to make transfers freely, for in an occasional balancing of accounts most of the payments due each other will cancel, leaving only a relatively small amount to be paid in money.

Something very much like this third process is continually going on in contemporary economic life. The process is more complex,

however, because A actually sells things to one person or group of persons, and buys them from other persons. And it is very likely that these two groups, the sellers and the buyers in A's transactions, have no direct business transactions with each other in which their respective claims against A and debts to A can be canceled. If, however, we take all buyers and all sellers into account, and if we could push our analysis of the complex network of credit relations far enough, we would find points of contact between A's credits and his debts. That is, if A gives a promissory note in exchange for a purchased good, this promissory note might be passed on from hand to hand until it got into the possession of some one who is indebted to A, — if the path it should take were known. The difficulty is that the path is not known. The institution of *banking*, however, *provides clearing centers, where credits and debts are balanced against each other and canceled.*

The Clearing System. — A, for example, has a " deposit " in a local bank, which means that he has the right to demand money from it at any time up to a determined amount. He usually makes a payment to B, not by money or by a personal note, but by a check, — an instrument ordering the bank to pay B the specified amount. This check will be presented for payment by B at a bank where he has a deposit, but the " payment " will usually be made by adding the amount of the check to B's deposit. If it is the bank where A also has his deposit, the transaction is settled by the simple process of debiting A's deposit and crediting B's. If it is another bank in the same town, and if the town is a small one, the check will enter into the daily exchange by the two banks of such claims against each other, the daily balance in favor of either bank being usually settled in money.

In the larger cities a further economy in the use of money is achieved by means of the *clearing house*, to which a representative of each bank brings daily all of the checks drawn against other local banks which it has received since the last previous " clearing." At the clearing house the checks are turned over to the representatives of the banks against which they are drawn, but balances are not settled between the individual banks. Instead, a balance is struck between the total sum of each bank's claims against other

banks and the total claims of other banks against it. Each bank then pays to the clearing house, usually in money, or receives from it, as the case may be, the amount of balance due to it or from it. There were more than 325 clearing houses in the United States in 1926 and the total amount of checks handled annually by them exceeded 500 billion dollars.

We have now developed in the United States a continuous process of balancing and canceling debts and credits, first, in every bank; second, between the different banks in each locality; third, between different localities and different sections of the country. Originally, the system developed along the lines of foreign exchange discussed in Chapter XVIII. A business house which had a bill to pay in another city, bought a draft on some bank in that city. If its customers paid their bills in checks on out-of-town banks, a charge for collection was imposed; and this charge went to such lengths in some localities that it was imposed even if the business house sent an agent to the out-of-town bank and presented the check for collection at the teller's window. From time to time, as in foreign exchange, expensive shipments of gold or currency were made from region to region to settle net balances.

Today, in a general way, the federal reserve system does for the entire country what the clearing house does for a particular city. Banks in the reserve system can accept for collection, without charge for exchange, all checks payable at par, and the time required for collection has been cut in half. "The reserve system now handles for collection probably 95 per cent of all out-of-town checks."[1] "Inland exchange" has been transformed, and the actual shipment of currency from place to place within the country for the settlement of net balances has practically disappeared (although of course some currency has to be shipped to serve as "till money"). Funds are transferred over the wires of the federal reserve system, and in 1926 the federal reserve bank of New York made 329,000 wire transfers amounting to $44,392,000,000. A net settlement between the federal reserve banks is made every day

[1] W. R. Burgess, *The Reserve Banks and the Money Market* (Harper and Brothers, New York, 1927), p. 79. The other statistics cited in this section are taken from the same source.

by telegraph through transfers of ownership equities in a *gold settlement fund* which is kept at Washington in the custody of the Treasurer of the United States.

This process of matching and canceling credits and corresponding debts is, in some respects, the most distinctive and essential function of commercial banks. The more comprehensively and effectively it is carried out, the greater the economy in the use of gold and the larger the superstructure of bank credit that can be reared upon the stock of gold in the possession of the banks. It is estimated that a dollar of gold in our federal bank reserves will support considerably more than ten dollars of bank credit. This, more than any other one circumstance, perhaps, explains the development, the service and the profits of the modern bank, which rest in turn in large degree upon the scope and efficiency of the clearing process.

The Nature of Credit. — Credit is merely the other side of debt, and if current usage were not against us, we might be better advised if we spoke of debt rather than credit. A debt is an obligation to pay money, a credit is a right to receive money.

To incur a debt is not to make a payment: it is rather to postpone payment. But we commonly make payments by transferring rights to receive payments from banks. To the individual person or firm (but not to the bank) bank credit is an actual means of payment. If I give my promissory note in exchange for goods, I do not *pay* for the goods; I merely give my creditor definite evidence in convenient form of his claim against me. I can pay him, however, by handing him a check conveying to him a definite claim or credit against my bank. There is, accordingly, an important difference between personal credit and bank credit.

Personal Credit. — If a man does not hoard money on the one hand, or fail to pay his debts on the other hand, his expenditures (including investments) are bound to be, in the long run, approximately equal to his income. But for a business man a *continuous* equality of income and expenditure is impossible. At some times his deposit account will be built up more rapidly than he checks it out; at other times his need for means of making payments will outrun his receipts. If, for example, he is a contractor, whose

expenses of production are fairly constant, but whose product is paid for only when completed, or a merchant, who replenishes his stock of goods from time to time, but whose sales are distributed throughout the year, or a farmer who must pay his harvest expenses before he sells his crops, he may find it necessary to utilize his *credit.* This he does by giving to others *rights to demand money from him in the future.*

Just how far he can utilize his personal credit, to what extent he can secure goods and services without immediate money payment, will naturally depend in some measure upon his personal ability and integrity. A second governing factor will be the net value of whatever part of his realizable wealth is not already pledged to secure other debts. His prospects, and in particular the prospective outcome of the particular enterprise in which he is engaged and to forward which he desires to incur debt, will constitute a third factor. In actual banking practice this third factor is especially important. Bank loans are made primarily for the purpose of furthering profitable business enterprises. In this way the banks both safeguard their own solvency and render the maximum service to the business community.

Bank Credit. — A man's personal credit, however, as we have seen, will not serve him as a means of payment. To acquire a usable means of payment the business man must exchange his personal credit for bank credit. In the simplest case, instead of using his own note as a medium of exchange, a business man will normally have it "discounted" by his banker. This operation involves an exchange of credits, or better, debts. If the note is for sixty days, for example, the business man yields *the right to demand a specific amount of money from him in sixty days*, in exchange for a deposit credit, — *the right to receive on demand the same amount of money less the discount.* The business man adds the note to his liabilities and the deposit to his assets. The bank adds the note to its assets and the deposit to its liabilities.

Discount is simply one form of interest, and banker's discount differs from ordinary interest in that it is computed as a certain percentage of the total amount that is repaid, while ordinary interest is computed as a percentage of the amount that is lent.

Thus if a bank discounts a note of $30,000 for two months at six per cent, the bank usually advances $29,700 and collects $30,000 at maturity, thus charging "bank discount" of $300. Mathematically it would be more exact to advance the present worth at 6 per cent of $30,000 payable in two months ($29,702.97 in this case), thus making the interest or "true discount" $297.03. On demand or "call loans" and on time loans on collateral security, interest rather than discount is usually charged.

The form of the credit instrument is a matter of considerable importance. Suppose that the business man has accepted notes from some of his customers in the payment of their accounts. He may indorse these notes and present them to his bank for discount. Or, again, he may make use of a bill of exchange. While a note is a promise to pay signed by the debtor, the bill of exchange, or draft, is an order to pay drawn upon the debtor by the creditor. A bank check is essentially a bill of exchange by the depositor (creditor) upon a bank (debtor), but is practically never treated as a bill of exchange. If a debtor acknowledges his liability by putting his signature upon a bill of exchange it becomes an *acceptance*, or if presented to the debtor's bank and accepted by that bank, it is a "*banker's acceptance*" or "*banker's bill*." The bill of acceptance was used in the United States before the Civil War, but thereafter national banks were prohibited by law from "accepting" bills, and the bill of acceptance became almost extinct in the United States. At the end of the nineteenth century the note was the accepted form of bank debt, and "one-name paper," that is, notes signed only by the borrower, had become prevalent. During the first decade of the twentieth century many legislative proposals were brought forward having as their object the establishment of a market in which bankers' acceptances might be bought and sold. These proposals materialized in 1913, when the federal reserve legislation conferred upon the banks the power to accept drafts made upon them.

The banker's bill has many advantages. It must have at least two names on it, that of the drawer of the bill and that of the accepting bank; and it frequently has on it the names of another bank and another endorser. Both the banks and the other en-

dorsers are likely to be large and well-known concerns. A note, on the other hand, must usually be held by the first bank until it matures, and is then frequently renewed, but the "bill" has a "two-way" market: it can be sold as well as bought. Moreover the bill almost always represents a definite purchase and sale and goes out of existence with its final payment, so that bank credit in bill form varies automatically with the volume of trade. The bill of acceptance has been artificially and successfully stimulated in the United States. Together with government obligations it constitutes the only important form of credit which may be purchased directly by federal reserve banks. In 1919 and 1920 the banker's bills outstanding approximated $1,000,000,000, and while this volume was not maintained in more recent years, the bill market has apparently become, in volume at least, more important than the older commercial paper market.

Having exchanged his personal credit, in whatever form, for a bank deposit, the business man may use the deposit as a means of payment through the checking system already described. Ordinary commercial banking consists, in large part, of this exchange of personal credit for banking credit. The bank builds up assets in the form of *loans and discounts* at the same time that it increases its *obligations* in the form of *deposits*.

TABLE XI

STATEMENT OF THE CONDITION OF A NATIONAL BANK IN A SMALL TOWN

RESOURCES		LIABILITIES	
Government securities	$ 443,900	Capital	$ 100,000
Other securities and real estate	744,700	Surplus	100,000
Loans and discounts	1,270,057	Notes outstanding	100,000
Lawful reserve (deposit with federal reserve bank)	114,386	Deposits	2,489,432
Cash and cash items	242,044	Due to other banks	14,338
Other assets	10,036	Undivided profits	21,353
Total resources	$2,825,123	Total liabilities	$2,825,123

The security behind the deposit liabilities of any bank consists of: (1) its stock of money; (2) the bank's own deposit in other banks, together with the checks or similar claims against other banks that are in its possession; (3) loans and discounts, which in turn rest back upon personal credit or upon specifically pledged property (as in the case of loans on collateral security); (4) bonds, mortgages, and other securities owned by the bank, which if necessary may be sold for the benefit of the depositors, unless set aside as security for bank note issues; (5) its other property (building, fixtures, etc.); (6) (in national banks and some state banks) the personal *liability* of the bank's stockholders.[2]

Bank Reserves. — If a bank is to be solvent, it is not enough that the sum total of its assets should cover or more than cover its deposits and other demand liabilities. Much depends upon the character of the assets, and in particular upon the amount of money — ready cash — they include, and the ease and quickness with which other parts of the assets may be converted into money. Every deposit account, it is important to remember, is an obligation of the bank to pay in actual money upon demand. The banks, therefore, must be ready to meet both the normal and the exceptional demands of their depositors for ready cash. Moreover, they must also be prepared to pay adverse clearing and collection balances in cash. The banks in certain sections of the country will at some times lose cash to other sections, just as the banks of any one country must often lose gold to the banks of other countries. In short, because the clearing system we have described above does not work perfectly, or rather because the financial transactions which give rise to clearings fluctuate as trade fluctuates, *balances* arise which the banks must always be prepared to pay.

The actual cash a bank keeps on hand, together with such " cash items " among its resources as may quickly be converted into cash, constitute its *reserve*. Among the cash items properly to be

[2] Even in case some of the bank's loans or securities prove worthless there is a margin of safety for the depositors in the fact that some of the assets of the bank represent the original investments of the bank's stockholders ("*capital*") or profits which they have put back into the business ("*surplus*"), and on such assets the depositors have the first claim. Moreover, in national banks and some state banks the stockholders are additionally liable up to an amount equal to the par value of their holdings.

counted in a bank's reserve are its claims against other banks, and especially its deposits in other banks. But it is clear that to count such items when computing the banking reserves of the country as a whole would involve misleading duplication. Because deposits constitute the most important cash obligations of ordinary commercial banks, the size of a bank's reserve should normally bear some relation to the amount of its deposits. In most countries just what the proportion of reserves to deposits shall be is left to the discretion of the banks. In the United States, the minimum *reserve ratio* is fixed by law.

An increase in the volume of a bank's business, other things being equal, will *lower* its reserve ratio. This comes about in two different ways: (1) The bank increases the volume of its business by increasing its loans and discounts. Since most of the bank's customers will take the proceeds of their borrowings in the form of deposits, the bank's deposits will usually increase when its loans and discounts increase. This in itself will lower the reserve ratio. (2) If a particular bank is increasing its loans and discounts, and hence, its deposits, more rapidly than other banks are increasing theirs, the volume of checks drawn upon it will be greater than the volume of checks drawn upon other banks. The bank in question, therefore, will be likely to find that in the interbank clearings more checks will be presented against it than it will be able to present against other banks. It will have adverse balances to pay, which will reduce its reserves and its reserve ratio. It is an important corollary of this second consideration that no one bank is often at liberty to expand credit as it pleases. It must, in general, follow the general pace set by the other banks of the community.

In addition to the requirement that a bank shall always have a certain amount of cash or quick assets as a reserve, it is desirable further that its other resources, and especially its loans and discounts, shall be as fluid as possible. This is best accomplished by confining most of its loans or discounts to notes or bills of exchange that are payable in thirty, sixty, or ninety days, or at most, in four or six months, so that a constant flow of maturing obligations makes it possible for a bank to expand or contract its loans and discounts,

and hence its deposits, as seems advisable. In this way the bank can best control the relation between its reserves and the volume of its business.

Bank Notes. — There is one way, however, in which banks can meet a demand for money without drawing directly on their reserves and thus reducing their power to extend credit. That is by the issue of bank notes, which are simply the promises of banks to pay money on demand, issued in convenient and familiar form for use as paper money. These notes are paid as money to customers of a bank who want the proceeds of their borrowings in cash, and to depositors and to holders of checks who prefer money to deposit credit. Bank notes pass readily from hand to hand as money, and constitute an important part of the circulating medium in most countries.

Bank notes are like deposits in that both are demand liabilities of banks. Bank notes, however, are likely to remain in circulation for a considerable time, and they circulate among persons who have no means of informing themselves as to the solvency of the banks issuing them. The holders of bank notes are accordingly usually given special protection by laws which regulate the conditions of their issue and redemption.

State Banks of Issue. — Before the Civil War the actual circulating medium of the United States consisted in very large part of notes issued by banks operating under state laws. The notes issued by some banks were as "good as gold" because the banks redeemed them promptly in gold, — a fact attributable in some cases to wise and rigid state regulation of banking, and in other cases, fewer in number, to conservative use of the too extensive privileges granted by lax state laws. But the notes of other banks were depreciated and in many cases were absolutely worthless.

Prohibited by the Constitution from issuing their own bills of credit, many of the states, especially in the South and West, responded to the clamor for cheap money by making it possible for their citizens to organize "banks" and issue their own bills of credit, imposing no or few requirements as to the actual investment of capital, the accumulation of assets, or the restriction of note

issue.[3] In the crises of 1814, 1837, and 1857 but few banks maintained specie payments. Even so late as 1860 the bank note circulation was of decidedly varying quality. "Bank note reporters" and "counterfeit detectors" had to be issued periodically in order to give to business men the latest quotations and information relating to the depreciated currency they had to receive in the ordinary course of business.

The National Banking System. — The successful state banking system of New York was the model upon which Congress, following the recommendations of Secretary Salmon P. Chase, patterned the national banking system which it established in 1863. He desired, among other things, to provide an artificial market for government bonds, which at the time were a drug on the market. National banks were required to use government bonds as the assets behind note issues, and furthermore, the national banks were, in 1866, given a monopoly of the note issue privilege by the imposition of a prohibitive tax of 10 per cent per annum upon the note issues of state banks.

The details of the national banking law have been amended from time to time, but its general principles remain unchanged. As the law has stood since 1900, national banks may not be organized unless the stockholders contribute a minimum capital varying from $25,000 for places of less than 3000 population to $200,000 for places of more than 50,000 population. Three limitations are put on the ordinary issue of circulating notes: (1) They must not exceed in amount the capital stock of the bank. (2) United States government bonds, in amount equal to the notes issued, have to be deposited by the bank with the treasurer of the United States as security for the redemption of the notes. (3) Each bank must maintain in the United States treasury a redemption fund in "lawful money" equal to 5 per cent of its note issue. As this last requirement indicates, bank notes are redeemable at the federal treasury. They may also be used in all payments to the government except customs duties, although they are not legal tender.

[3] Some states circumvented the constitutional prohibition mentioned by establishing their own banks for the manufacture of paper money. The Bank of Kentucky was the most famous of these.

The Central Reserve System. — While the note holder is thus protected by a special kind of security set aside for the purpose, the depositor in a national bank is protected only by its general assets. The nature of these, however, is prescribed in some degree by the federal government. But the most important requirement relates to the reserves that must be held by national banks. Until the Federal Reserve Act was passed in 1913, banks in "central reserve cities" (New York, Chicago, and St. Louis) were required to maintain a "lawful money reserve" [4] equal to at least 25 per cent of their deposits. Banks in other "reserve cities" (including most of the cities with over 100,000 population) were also required to maintain 25 per cent reserves, but their deposits in the national banks of the central reserve cities might be counted for one half of that amount. In all other places the banks were required to hold a 15 per cent reserve, three fifths of which might consist of deposit accounts in banks in central reserve cities or other reserve cities. In all cases the funds kept by the banks with the United States treasurer for the redemption of their notes were counted as part of their legal reserves.

Under the operations of this system the cash reserves of the national banks were centered in New York. New York is the chief market place of the continent and the center of financial operations. State banks and trust companies, as well as national banks, find it to their advantage to maintain deposit accounts in New York. All together the deposits of other banks usually constituted more than half of the aggregate deposits in New York national banks. Like an inverted pyramid upon its apex, the structure of bank credit in the United States rested upon the money reserves of the New York banks. Every important change in the demand for money or credit in any part of the country had an effect on the New York money market; similarly, every important disturbance in the New York money market affected financial conditions throughout the country.

The central reserve system which we have just described was done away with when the federal reserve system was installed in 1913. It is generally agreed that the old system worked badly.

[4] Including all kinds of United States money except minor coins and bank notes.

The trouble was not that the reserves were centralized. Centralization of reserves in some form is found in practically all of the leading commercial nations; it effects economies in the use of cash and permits a larger volume of bank credit than could otherwise be issued. The necessity of having this large volume of bank credit makes some kind of centralization practically inevitable. The trouble was that we did not get the advantages which many other nations derived from centralized reserves, that is to say, ready response to variation of credit needs in different parts of the country, available resources to meet special demands such as for gold to be exported to other nations, and in general an " elasticity " which serves to moderate and not to intensify the violence of those alternating periods of prosperity and depression which constitute a major defect in our modern business mechanism.

Inelastic Reserves. — Our bank reserves, both local and central, tended always to remain very close to the legal ratios prescribed by law. They could not fall very much below those points, for the law compelled banks to stop lending when their reserves fell below the legal minima. It is sometimes alleged that on this account our bank reserves were useless, and that reserves that cannot be used are not real reserves. This criticism goes too far. The reserves could be used at any time for their primary purpose of enabling the banks to meet *demands for cash.* The real difficulty was that the rigid and inelastic requirement of the law fixed a dead line beyond which the *extension of credit* could not go.

This often had serious consequences. It is a well-tested principle of sound banking practice that for bankers to stop lending when bank reserves are low is to invite disaster. Business men, otherwise solvent, are not able to secure bank credit. Forced sales ensue; the prices of securities and of other forms of property fall; banks " call " their demand loans or ask for larger deposits of collateral securities; more sales are forced, and the pressure on the banks for loans increases. In short, a general money market panic may come from suddenly curtailing loans at a time when bank reserves are relatively low. The wiser banking policy is to lend freely on good security, but at increased interest rates, thus automatically restricting loans to the more necessitous borrowers.

That the requirements of the law were rigid explains why national bank reserves under the old system did not fall much below a fixed point. But it does not explain another and equally significant fact, namely, that reserve ratios rarely rose much *above* that fixed point. To explain this, we must note first that local banks in the United States, as elsewhere, do not find it profitable to keep more cash on hand than the law prescribes or than they need in the ordinary course of business. An unnecessary amount of idle cash is an unprofitable investment. When surplus cash accumulates on their hands, local banks find it better to send it to large city banks in exchange for interest-bearing deposits. In this way, under the old system, the *surplus* reserves of the country became centralized in the larger cities and especially in New York. Once in the hands of the New York banks, they were quickly absorbed in an increase of their loans and discounts and hence of their deposits.

In this connection, call or demand loans were of especial importance. In New York such loans are very largely made to finance stock exchange speculation and are secured by stocks and bonds pledged as collateral. The interest rate on call loans is much more variable than the rate on time loans. The principal circumstance affecting the call loan rate under the old system was the amount of the *surplus reserves* of the New York banks, that is, the excess of their reserves over the amount required by law. Large reserves meant that the banks could safely expand their loans.

Expansion made call loan rates low; this increased the amount of speculative buying of securities, advanced speculative prices, and thus stimulated speculation so as to increase the demand for call loans. If, however, by reason of an excessive expansion of loans or sudden withdrawals of cash, the surplus reserves of the New York banks were low, some loans might have to be "called."

Since their payment might thus be demanded at any time, call loans, from the point of view of *any one* bank, might appear to be a particularly desirable form of investment. They might seem to constitute for that bank something like an additional or secondary reserve over and above the bank's reserve of lawful money. But, viewed as an aggregate, it is clear that the call loans of the large New York banks had none of the characteristics and answered

none of the purposes of a reserve. The calling of loans by one bank would merely increase the demand for credit at other banks. Unable to secure credit with which to hold their securities, borrowers would be forced to sell them; there would be a resulting drop in their prices; to protect themselves, brokers would demand additional "margins" from their customers; the banks would demand that more collateral be put behind their loans. Just as surplus reserves often initiated an expansion of speculation, so a low reserve ratio would force contraction. The money market and the speculative market reacted upon each other in a way that was bad for both. The rate of call loans was normally, on the average, at least a point lower than the rate on time loans of commercial paper. But under unusual conditions, speculators have had to pay as much as 125 per cent or even more. And the major disturbances in the New York money market, even though wholly speculative in their origin, were likely to be reflected in financial conditions throughout the country.

TABLE XII

Loans and Discounts of New York National Banks on Specified Dates
(In millions of dollars)

Character Loan	1890	1901	1906	1912	1920	1928
On demand	102	279	303	344	477	984
On time, with collateral security	43	129	149	223	620	672
On time, without collateral security	152	203	249	391	1647	1017

Related Evils. — Because of (1) the tendency of the surplus reserves of the country to flow to New York, and (2) the way in which they were quickly absorbed there in the extension of bank credit, it followed that the country as a whole, except during certain periods of industrial depression, never possessed any considerable surplus reserves for any length of time. We were ill prepared to meet either sudden withdrawals of cash from bank reserves or any urgent need for large additional advances of bank credit. The banking situation generally had very little *slack* in it.

For example, in the South and West there is a recurrent annual demand for money to be used in " moving " the cotton and grain crops. Harvest expenses have to be paid largely in cash. Most farmers are paid cash for their crops. Banks in the great agricultural regions annually find that at harvest season their depositors increase their cash withdrawals and that borrowers want loans in the form of cash. The banks in those sections, accordingly, withdraw money from the banks in which they have deposits, and under the old system most of this money came directly and indirectly from the New York bank reserves. There was a good deal of justifiable complaint on the part of farmers who found difficulties in converting their personal credit, however good it might be, into immediate means of paying cash. And as it was, the withdrawals were large enough to lead often to difficulties in the New York money market.

Students of banking problems had thought for many years that if national banks had been permitted to issue notes secured, not by government bonds, but by their general assets, and especially by their loans and discounts, this particular problem would have been met easily and successfully, — as it is in Canada, where an elastic system of note issue enables the banks to furnish money for crop-moving purposes without endangering their reserves. With an *elastic bank note currency*, any sudden increase in the demand for money as a circulating medium may be met merely by increasing the volume of bank credit and in particular by shifting some of it from the form of deposits to the form of notes.

The bond-secured bank currency provided for by the national banking law has always been extremely *inelastic*, in the sense that its amount has not responded quickly to the varying needs of trade. The price of government bonds and the increase in the number and size of banks have been the controlling influences upon its amount. Many persons have thought that this inelasticity was the greatest defect of the national banking system. The more serious projects for banking reform broached before 1907 were intended primarily to give us a more elastic note issue.

It is clear, however, that the difficulty created by inelastic currency was in large measure merely one aspect of the larger

difficulty of inelastic reserves. If the New York banks had been able to take money freely from their vaults and send it to the South and West each year, in full confidence that it would return in due season, without curtailing the volume of their loans, the problem of elastic currency would have been solved. Elasticity would have been secured by permitting money to pass from bank reserves into circulation and back into reserves again.

In a similar way, the difficulties associated with the *independent treasury system* of the federal government were aggravated by the inelasticity of our bank reserves. Since 1846, the federal government, like a medieval monarch, but unlike other modern governments and unlike business firms, had kept its money in its own strong boxes. The strong boxes were the treasury at Washington and sub-treasuries (now abandoned) in nine other cities. Under this system, when the government's receipts exceeded its expenditures, money drawn out of bank reserves collected in the government's vaults; when expenditures were growing more rapidly than receipts, the money flowed back to the banks. The strains thus put upon the banking system were less severe than those occasioned by the annual movement of money to the agricultural regions or by occasional demands for gold for export. Under a more elastic reserve system, they would have been relatively unimportant.

Absence of Centralized Control. — It may have occurred to the reader that some elasticity might have been given to bank reserves in the United States if the banks holding the central reserves had made it their practice normally to hold reserves considerably larger than the minimum required by law, — reserves equal to 40 or 50 per cent of their deposits, for example. This would have given a margin sufficient to enable them usually to meet withdrawals of gold for domestic use or for export without suddenly contracting the supply of loanable funds. All this is undoubtedly true, but it must not be supposed that such a policy would voluntarily have been followed by the New York banks.

The difficulty was that the banks holding the central reserves were merely large commercial banks, interested primarily in securing maximum profits for their own stockholders, and with no one of them *individually* responsible for the maintenance of

adequate surplus reserves. For any one bank to have attempted to remedy the situation would have helped but little. It would only have put itself at a disadvantage as compared with its competitors. In order that a country may hold any large amount of surplus reserves, responsibility for the maintenance of such reserves must not only be centralized; *it must be intrusted to institutions which will not be interested primarily in profits.*

(See References at Close of Chapter XV.)

CHAPTER XV

CREDIT AND BANKING (*Concluded*)

Steps toward Reform. — The national banking system was in some particulars, highly successful. National bank notes were always thoroughly sound, and depositors, too, were well protected. But the defects which have just been discussed made the system, in its larger aspects, unsafe. Students of banking problems had for many years urged the need of reform. Some advocated the establishment of a *central bank*, such as is found in almost every country of Europe. These banks hold the central banking reserves of their respective countries, hold the government deposits, have (usually) a monopoly of bank note issue, and are subject to a special measure of government control. But ever since the days of the Second Bank of the United States the creation of one central bank for the whole country has probably been politically impossible.[1] Various plans for securing a more elastic bank-note currency were also urged. But Congress, the business men of the country, and, it must be said, the bankers themselves, were for the most part apathetic.

General interest in the matter was finally aroused by the panic of 1907, in which the worst features of our banking system stood out in clear relief. Banks throughout the country found themselves unable to meet the large and increasing withdrawals of money by their depositors and were unable in turn to get money from the banks in which they themselves had deposits. Banks with perfectly sound assets found themselves, for the time being, technically insolvent. *Clearing-house loan certificates* — virtually

[1] The United States Bank (1791–1811) and the Second Bank of the United States (1816–1836) were large institutions, with numerous branches. But although they issued notes and held the treasury funds, they were not "central banks" in the modern sense. They did not have a monopoly of note issue, for state banks also issued notes, nor did they hold central banking reserves.

joint obligations of the banks associated in the clearing house, issued to individual member banks upon the deposit of adequate security — were used (as in former panics) in the payment of clearing-house balances. In many cities clearing-house loan certificates, issued in small denominations, were paid to depositors in lieu of money. Cashier's checks and other credit instruments were also used as money. The total amount of improvised currency issued during the panic is estimated to have been over $500,000,000.[2] The whole situation was such as to impress upon thoughtful men the imperative need of banking reform.

The first tangible result was the so-called Aldrich-Vreeland Act of 1908, which made temporary provision for such emergencies as that of 1907 by permitting national banks to issue notes, under a heavy tax, upon other security than government bonds. The methods utilized were, in part, those which had been developed by the banks themselves in issuing clearing-house certificates. For several years no notes were issued under this statute, but in 1914 the outbreak of the European war led to large shipments of gold to Europe and to a small-sized panic in the money market. The issue of emergency currency possibly averted a more serious panic. Altogether, emergency notes to the amount of $386,000,000 were issued by 1363 different banks. All of these had been retired before the Act expired, by limitation, on June 30, 1915.

The Aldrich-Vreeland Act also created a National Monetary Commission, composed of senators and congressmen, to devise a plan for the general revision of the banking system. The plan recommended by this commission was one sponsored by Senator N. W. Aldrich of Rhode Island. It provided for a hierarchical organization of the banks of the country, with a central bank, the "National Reserve Association," at the top. The whole system was to be controlled by the banks rather than by the government. The widespread discussion of the Aldrich plan undoubtedly did much to awaken interest in the problem and to make the adoption of the federal reserve system possible.

[2] A. P. Andrew, "Substitutes for Cash in the Panic of 1907," *Quarterly Journal of Economics* (August, 1908), Vol. XXII, p. 515. For an excellent account of the general situation at the time see O. M. W. Sprague, *History of Crises under the National Banking System*, Chap. V (Government Printing Office, Washington, D. C., 1911).

The Federal Reserve System. — A revolutionary change in the banking system of the United States was brought about by the Federal Reserve Act of 1913. Under the provisions of this act the country has been divided into twelve districts, and a central bank, named a Federal Reserve Bank, has been established in each district.[3] The system is under the general supervision and control of the government. At its head is the Federal Reserve Board, comprising six members appointed by the President, together with the Secretary of the Treasury and the Comptroller of the Currency. The stock of the various federal reserve banks is owned by local banks in the respective districts, called "member banks." National banks were required to become member banks, while state banks and trust companies are permitted to become member banks, provided they comply with certain standards imposed upon national banks by the national banking law and with other requirements set by the Federal Reserve Board. Each federal reserve bank is governed by a board of nine directors, six elected by its member banks, and three appointed by the Federal Reserve Board. Only one of the three appointive members may be an active banker; he serves as Chairman of the Board of Directors, and must give all his time to the reserve bank. Three of the elective members must be actively engaged in commerce, agriculture or industry in the district. Dividends paid to member banks on their stock are limited to 6 per cent. The provisions last noted were adopted for the purpose of preventing the reserve system from being operated for profit, and to give active business men as opposed to professional bankers a large part in the determination of its policy and management.

The federal reserve system was instituted not to make money, but primarily "to furnish an elastic currency, to afford means of rediscounting commercial paper — with a view of accommodating

[3] The twelve federal reserve banks are located at New York, Boston, Philadelphia, Richmond, Atlanta, Cleveland, Chicago, Minneapolis, St. Louis, Kansas City, Dallas, and San Francisco. In addition, branches (twenty-five altogether in 1928) have been established in other important cities within the different districts and "branch territories" allotted to them. In 1928, 8929 banks, holding over 70 per cent of the commercial bank deposits of the country, were members of the federal reserve system. Over 1200 of the member banks at that time were state banks and trust companies.

commerce and business — and to establish a more effective supervision of banking in the United States." Wisely or unwisely the system was founded on a legislative assumption that the concentration of bank funds in New York City and their absorption in stock market transactions were evils to be discouraged and not a socially wholesome use of bank credit. Out of this assumption have arisen some of the most difficult problems of the federal reserve system. The Federal Reserve Board, it may be noted here, receives advice and counsel from a Federal Advisory Council consisting of twelve members, one from each district. As an indication both of the function of this Council and of the most controverted of the present [4] problems of policy, we quote below a recommendation made by the Federal Advisory Council at a meeting held on May 21, 1929.

The Federal Advisory Council has reviewed carefully the credit situation. It continues to agree with the view of the Federal Reserve Board expressed in its statement of February 5, 1929, that "an excessive amount of the country's credit has been absorbed in speculative security loans." The policy pursued by the Federal Reserve Board has had a beneficial effect due largely to the loyal coöperation of the banks of the country. The efforts in this direction should be continued. The council notes, however, that while the total amount of Federal reserve credit being used has been reduced, "the amount of the country's credit absorbed in speculative security loans" has not been substantially lowered.

Therefore, the council recommends to the Federal Reserve Board that it now grant permission to raise the rediscount rates to 6 per cent to those Federal reserve banks requesting it, thus bringing the rediscount rates into closer relation with generally prevailing commercial money rates. The council believes that improvement in financial conditions and a consequent reduction of the rate structure will thereby be brought about more quickly, thus best safeguarding commerce, industry, and agriculture.[5]

Relations with Member Banks. — The federal reserve banks are "bankers' banks"; that is, they do not accept the deposits of individuals nor do they lend directly to individuals. Their most important relations are with their member banks, and these may be summarized under the heads of (1) reserves, (2) rediscounts and loans, and (3) note issues.

[4] This was written in the autumn of 1929 but before the crisis which occurred in the latter part of October, 1929.

[5] *The United States Daily* (May 22, 1929).

1. The federal reserve banks hold the central reserves of the system. At first member banks were required to keep part of their reserves in their own vaults. But as the law has stood since 1917, the only reserves which member banks are *required* to maintain consist wholly of deposit credits on the books of federal reserve banks. Member banks in central reserve cities (New York and Chicago) must maintain in such form reserves equal to 13 per cent of their demand deposits. For member banks in reserve cities, the legal reserve is 10 per cent of demand deposits, and for other member banks, 7 per cent. In addition, member banks, of whatever class, are required to maintain reserves equal to 3 per cent of their time deposits. The amount of money a member bank keeps on hand as till money is now left to its own discretion. It is usually relatively small — generally not more than 5 per cent of demand deposits.

Under the federal reserve system, therefore, the banking reserves of the country have been centralized in much higher degree than before. The ultimate reserves are those of the federal reserve banks themselves. The reserves they hold (in money) must normally equal 35 per cent of their deposits plus 40 per cent of their outstanding circulating notes. These new central reserves are not so rigid and inelastic as the old ones were. In the first place, the Federal Reserve Board may, in case of need, suspend these reserve requirements temporarily, imposing a progressive tax upon the amounts by which the reserves fall below the normal legal level. In the second place, it was to be expected that the federal reserve banks would as a matter of practice hold reserves considerably larger than those required by law.

This expectation has been realized. During the course and collapse of the speculative boom of 1919–20 the reserve ratios closely approached the legal limits of 35 and 40 per cent; but in 1921 an unprecedented flow of gold started to this country, and since that time the reserve ratios have been uniformly high. Despite high reserve ratios, however, interest rates rose markedly after 1927. In 1929 after successive advances in rediscount rates by the reserve banks and strong expressions of disapproval by the Federal Reserve Board of the "excessive" employment of bank credit

in security speculation, a drastic "deflation of the stock market" marked by all the characteristics of a severe crisis occurred in the last week of October, 1929. During this period, however, the reserve ratio for the entire system practically never sank below 60 per cent. On November 20, 1929, when the crisis noted above had barely subsided, the reserve ratios of the various federal reserve banks were as follows: New York, 80.3; Boston, 86.3; Philadelphia, 63.4; Cleveland, 58.8; Richmond, 56.6; Atlanta, 61.2; Chicago, 72.9; St. Louis, 66.2; Minneapolis, 66.5; Kansas City, 55.3; Dallas, 59.8; San Francisco, 61.5.

The federal reserve system is thus operating with that "slack" the absence of which we have described as a marked defect of the old system. We now have elasticity and a banking mechanism which seems able to supply a practically unlimited amount of credit for emergency use. The magnificent record of the federal reserve banks during the crisis of 1929 and the conduct of the New York banks in particular, warrant the conclusion that the "bank panic" of prewar days is no longer to be feared. But having the power to expand credit, we find it expedient not to use all that power. The problem of today is to determine at what point in the process of expansion the federal reserve authorities should call a halt by raising the rediscount rates or by exercising the other restrictive powers at their command. In short, what kinds and degree of credit expansion are unwholesome? The Federal Reserve Board has wide powers of control. Has it wisdom of corresponding scope? We think it has shown wisdom in recent years, but particularly before the crisis of 1929 the critics of the Federal Reserve Board were many and outspoken.

2. *Rediscounting* is the purchasing by one bank of notes and bills of exchange held by another. Although common in Europe, rediscounting has not been frequently resorted to in American banking practice, and there has even been a distinct prejudice against it. But it plays an essential part in the operations of the federal reserve system. Federal reserve banks may rediscount (for their member banks) short-time notes and bills of exchange "issued or drawn for agricultural, industrial, or commercial purposes," and conforming to certain specifications which have been carefully

formulated by the Federal Reserve Board. *Notes or bills arising out of trading in stocks, bonds or other investment securities cannot be rediscounted unless the securities are those of the United States government.* The purpose of this restriction is to prevent the resources of the federal reserve banks from being used to finance speculation, and also to limit their holdings to so-called "self-liquidating paper," which borrowers will be able to repay in the ordinary course of business from the proceeds of the sales of the goods produced or purchased with the aid of the borrowed funds. Besides rediscounting, the federal reserve banks, since 1916, may make short-time advances to member banks upon their *own* promissory notes, provided such notes are secured by collateral in the form of commercial paper of the sort eligible for rediscount or by securities of the federal government.

These provisions for rediscounting and borrowing are very important. Together with the new system of central reserves, they give a high degree of elasticity to the supply of bank credit. When the reserves of member banks become too low to permit them to increase their advances to borrowers, they may replenish them by borrowing from the federal reserve banks or by sending bills and notes to them for rediscount. If the pressure for loans falls unevenly upon the federal reserve banks in different parts of the country, the Federal Reserve Board may permit and even require some of the federal reserve banks to rediscount commercial paper for other federal reserve banks. Just as the reduction in reserve requirements has vastly increased the volume of bank credit that may be erected upon the gold reserves of the country, the centralization of reserves puts them at the disposal of the banks and thus of the borrowers of the country as a whole.

3. National banks may still continue to issue notes if they so desire. The bank notes already in circulation could not have been suddenly withdrawn without serious consequences. In particular, the government bonds held by the banks as security for their notes could not have been marketed without heavy loss. It is accordingly provided in the federal reserve act that national banks might sell these bonds to the federal reserve banks at par. The federal reserve banks, in turn, may utilize them as security

for the issue of federal reserve *bank* notes, which in all essentials are like national bank notes. It will be recalled that when silver certificates were withdrawn from circulation, under the provisions of the Pittman Act, a special issue of federal reserve bank notes was substituted.

Much more important are the *federal reserve notes*. These are issued by the federal reserve banks upon the security of the commercial paper they have secured by rediscounting or by purchase in the open market. As commercial paper set aside or "earmarked" for this purpose matures, fresh paper or gold must be put in its place if the notes remain in circulation. The federal reserve banks must, as we have already seen, maintain a gold reserve equal to 40 per cent of their outstanding notes. This ratio, like the ratio of reserves to deposits, may, in emergency, be permitted by the Federal Reserve Board to fall below the legal point, although such deficiencies are penalized by a graduated tax.

When the member banks need currency for the use of their borrowers and depositors, they may obtain it by taking the proceeds of their borrowings from the federal reserve banks in the form of federal reserve notes rather than in the form of deposit credits. This means that when the country needs more money for hand-to-hand circulation it can get it, using member banks as intermediaries, by exchanging personal credit instruments for federal reserve notes. The volume of bank notes can now expand quite as readily as the volume of bank deposits. Issued in enormous quantities during the war and the years immediately following, federal reserve notes now constitute the largest single item in our circulating medium. They are not legal tender, although they are receivable in the payment of federal taxes. But now that member banks no longer are required to hold any part of their reserves in the form of legal tender money in their own vaults, federal reserve notes serve their purposes as well as any other kind of money.

Other Functions of the Federal Reserve Banks. — The federal reserve banks, it was contemplated in the law, should be bankers for the federal government. Any or all of the general funds of the government may be deposited with them and they may serve

as fiscal agents of the country in various operations. At first, the treasury was slow to take advantage of the opportunity thus given it to use modern and economical methods in caring for its receipts and making its payments. But during the World War the Treasury found that it needed the support and coöperation of the federal reserve banks. The banks were the intermediaries through which bonds and certificates of indebtedness were distributed to other banks and to investors. The closing of the subtreasuries in 1920 meant that they had outlived their usefulness and that the government would continue in the future to receive and make payments through the federal reserve banks.

Open-Market Operations. — The dealings of reserve banks are not confined to member banks. The former may buy and sell, in the open market, gold coin and bullion; securities of the federal government; the short-time obligations of state and local governments; farm loan bonds and acceptances or debentures of federal intermediate credit banks and national agricultural credit corporations; cable transfers, bankers' acceptances and bills of exchange of the kinds and maturities made eligible for rediscount. These open-market operations are important. If the federal reserve banks could only deal with their member banks and with the federal government, there would be danger that they might become merely "emergency banks," custodians of a surplus supply of lending power that could be tapped in case of extreme need. Their open-market operations enable them to exercise a steadying effect upon the money market at any time. They may buy and sell, not primarily for profit but to relieve a situation of strain or to dampen a tendency toward too rapid expansion. Rediscounts must wait upon the desires of the member banks. In their open-market operations, the federal reserve banks may themselves take the initiative. In practice, this initiative is taken and control exercised largely through the purchase and sale of government securities, these operations being usually coördinated and conducted for all the reserve banks by "an open-market investment committee for the federal reserve system" which functions under the general supervision of the Federal Reserve Board.

Sales of government securities by the reserve banks tend to

restrict credit conditions, and purchases of the same to ease credit conditions. This seems to be an established fact. Explanations of the fact differ. The real reason is probably the reluctance of the member banks to borrow from or increase their indebtedness to the reserve banks. *This psychological or traditional attitude is of fundamental importance in the general operation of the reserve system.* It explains many banking phenomena not otherwise easily explicable. When the reserve banks buy government obligations, the member banks who receive funds from the sale do not use this new resource as a basis for expanding bank credit. But they are apt to use it in reducing their indebtedness to the reserve bank, and then to adopt a more liberal lending policy. *Per contra*, when the reserve banks sell government securities, there is a resulting increase of member bank indebtedness, a less liberal lending policy on the part of the member banks, and money rates grow firmer.

Open-market operations are used by federal reserve authorities to effect several kinds of control: to pave the way for advances or reductions in rediscount rates; to stimulate recovery from business depression or to check business expansion when it threatens to become excessive; to neutralize the disturbing effects of large gold movements on the credit situation, and in general to exercise a stabilizing influence on the money market.[6] During the crisis of 1929 the Federal Reserve Bank of New York purchased more than $150,000,000 of government securities in the course of a single week.

Statistical studies of interest rates before and after the war seem to prove that the federal reserve system has operated not only to stabilize rates — that is, to lessen their monthly fluctuations — but also to reduce the rates on commercial loans in a rather striking way as shown in table XIII on page 286.

The Federal Reserve System during the War. — The federal reserve system was carefully devised. Its purpose was to get rid of the principal evils of the old national banking system. In its first few years the most formidable obstacle to its success

[6] W. R. Burgess, *The Reserve Banks and the Money Market* (Harper and Brothers, New York, 1927). See Chapter XII, on which the discussion of open-market operations in the text is largely based

TABLE XIII

AVERAGE LEVEL OF MONEY RATES [7]

	1890–1913 PER CENT	1913–1928 PER CENT
Commercial paper	4.72	4.35
Time money	4.04	4.58
Call money	3.58	4.43
Corporation bond yields	4.47	4.72
Common industrial stock yields	5.43 [a]	5.97

[a] 1900–1913.

seemed to be the lack of cordial support on the part of the banks, especially the smaller banks, of the country. Few state banks and trust companies, for example, became members. Member banks had to subscribe to the capital of the federal reserve banks before the earning power of the latter was assured; they got no interest on their required reserve deposits, and some of them lost large profits from charges for collections and exchange. The utility of the system to them could not be proved until an increased strain upon their own resources forced them to go to the federal reserve banks for help. The war gave the federal reserve system its first severe test, even though its services to its member banks were, in a manner, overshadowed by the greater significance of its services to the government.

The savings of the people fell far short of furnishing the sums the government borrowed. By expanding their own credit — their deposits and their note issue — the federal reserve banks made it possible for the other banks, in turn, to expand their credit, placing it at the disposal of the government and of the purchasers of government securities. Government securities were at first absorbed in large measure by the banks themselves and were taken over from them more slowly by investors. Describing the whole process in general terms, we may say that the federal reserve banks *advanced* the purchasing power which the government needed.

[7] O. M. W. Sprague and W. R. Burgess, "Money and Credit and Their Effect on Business," *Recent Economic Changes*, President's Conference on Unemployment (McGraw-Hill Book Co., New York, 1929), Vol. II, p. 657.

The loans of federal reserve banks during this period were made very largely upon the notes of member banks supported by the securities of the federal government as collateral.

This expansion, or virtually creation, of purchasing power forced a precipitate rise of prices. In March, 1917, according to the figures of the United States Bureau of Labor Statistics, wholesale prices were 62 per cent above their level in 1913. Two years later, they were twice as high as in 1913. In May, 1920, they were higher by 147 per cent than in 1913. Federal reserve notes in circulation increased from $89,000,000 in 1915 to $606,000,000 in 1917, $1,911,000,000 in 1918, $2,618,000,000 in 1919, and $3,154,000,000 in 1920. Deposits in the federal reserve system increased from $384,000,000 in 1915 to $2,190,000,000 in 1919.[8] This was inflation, and it had all but one of the bad effects of inflation. The one exception was in the fact that throughout the period the United States remained on the gold standard. Without the federal reserve system it would have been difficult, perhaps impossible, for the government or the banks to have kept their obligations at a parity with gold.

That inflation went as far and did as much damage as it did must be attributed not only to the fact that the government's demands were large but also to the further fact that the rate of interest paid by the government upon its enormous borrowings was fixed at a relatively low point. In order to "support the market" for government bonds and Treasury certificates of indebtedness, that is, to keep their price at or close to par, the federal reserve banks had to advance funds to investors at rates governed by the low rates the government would pay. Because interest and discount rates were held down in this artificial way, there was somewhat more borrowing and somewhat less saving by buyers of government securities and by people generally, than if the rates had been higher. In particular the low rates invited the absorption of large amounts of money in an expansion of business activities. As Governor Harding of the Federal Reserve Board said before the Senate and House Committees on Agriculture in December 1920: "The Federal Reserve Board adopted a policy in order to

[8] These figures are averages for the twelve months in each year.

assist in the war financing which was economically unsound. I say this frankly."

Inflation, therefore, is to be attributed to the enormous outlays required by war and to the fiscal policies followed rather than to the federal reserve system. The existence of the federal reserve system merely minimized its evils. It was better to have an expansion of federal reserve notes than another flood of irredeemable greenbacks.

Brokers' Loan, Speculation, and Control. — The federal reserve system has in no wise changed the old tendency of surplus funds to drift to New York and to find employment there in financing speculation in securities. The growth of security loans is shown by the following table in which reports of New York member banks and reports of New York brokers are combined, probably not without considerable duplication.

GROWTH OF SECURITY LOANS

MONTHLY AVERAGES OF WEEKLY FIGURES
(In millions of dollars)

	MAY, 1928	MAY, 1929	INCREASE
Security loans of reporting member banks	7,075	7,218	143
Brokers' loans for "others" reported by member banks in New York City	1,514	2,965	1,451
Brokers' loans for "others" reported to the stock exchange	684 [a]	1,188 [a]	504
Total	9,273	11,371	2,098

[a] Average figures for end of April and end of May.

"The growth in the aggregate of security loans included in the table has been in excess of $2,000,000,000 and at a rapid rate. This growth has been only to a minor extent in security loans of reporting member banks, and such increase as has occurred in these loans has not been in open-market loans to New York brokers, but in collateral loans to the banks' customers. Increase in the demand for credit to finance security operations, therefore, during the past year has not been met to any considerable extent by

domestic banks, *but by others, including foreign banks, individuals, and corporations having surplus cash arising out of profits and out of securities floated in the favorable market prevailing in recent years.*[9] "

The reserve authorities met the increased demand for security loans by adopting a firmer credit policy. In the autumn of 1927 gold began to be exported in large volume, but the reserve banks refrained from buying government securities. A little later they sold government securities and reduced their holdings of acceptances, allowing the export of gold to exercise its full influence on interest rates. Rediscount rates which at the beginning of 1928 were $3\frac{1}{2}$ per cent in all districts, were gradually advanced until they reached 5 per cent. On February 2, 1929, the Federal Reserve Board made its attitude unmistakably clear in a letter to the reserve banks containing the following statement:

> The federal reserve act does not, in the opinion of the federal reserve board, contemplate the use of the resources of the federal reserve banks for the creation or extension of speculative credit. A member bank is not within its reasonable claims for rediscount facilities at its federal reserve bank when it borrows either for the purpose of making speculative loans or for the purpose of maintaining speculative loans.

As a consequence of increased demand and deliberately restricted supply, interest rates rose to a level higher than at any time since 1921. At New York City in the week ending May 4, 1929, the prevailing rate on commercial paper (4 to 6 months) was 6 per cent; on time loans (90 days) $8\frac{1}{2}$ per cent; on call loans (new) 11.33 per cent; while the average rate or yield on Treasury certificates was nearly 5 per cent; and later exceeded 5 per cent. These high rates exercised a restraining but apparently not a severely harmful influence on industry and general business. On stock-exchange operations their effects were intermittent and puzzling. When, for instance, the rediscount rate at New York was raised to 6 per cent, in August 1929, the immediate reaction was a violent decline in the prices of stocks; but within two days stock prices rebounded practically to the former level. For the first nine months of 1929 the stock market responded to the warn-

[9] The table and the explanatory comment are from the *Federal Reserve Bulletin* for June 1929 (p. 360).

ings of the Federal Reserve Board by alternating flurries of sharp declines and vigorous rallies. The New York banks, with some exceptions, appear to have coöperated in good faith with the reserve authorities and to have reduced their security loans during this period. But this withdrawal of credit was more than counterbalanced by an enormous increase in call and security loans furnished by non-banking corporations, foreign banks, and "others." The situation apparently got beyond the control of the federal reserve authorities; the speculative bubble continued to expand until September 1929, and in October 1929 it burst.

We cite this chapter of recent financial history primarily to illustrate the thorny path which centralized banking control must tread in the United States. The way to avoid crises is to prevent or moderate the feverish booms which precede them; but it is a difficult way. Speculative frenzy cannot be checked — at least it was not checked in 1929 — merely by warnings and by raising the rediscount rates. And these are the most powerful methods of control available to the Federal Reserve Board, or at least the most powerful controls with which at present it is probably wise or politically expedient to invest the Board. After all, the Federal Reserve Board is not charged with the responsibility of suppressing or even of regulating speculation in securities, although the Board is by law, we think, charged with the duty of preventing so far as possible the use of federal-reserve credit in increasing or maintaining speculation in securities.

The Federal Reserve Board was severely criticized for its policy and conduct before the boom collapsed and it will doubtless be criticized in the future. But these criticisms are so inconsistent and conflicting that they confirm, in a general way, the wisdom of the Board's attitude and actions. The Board was condemned for acting too soon and for acting too late; for acting in excess of its legal powers and for not having exercised all of its legal powers; for interfering with speculation at all and for not effectively checking speculation. History will justify, we think, the policy and conduct of the Federal Reserve Board during the trying year 1929.

Banking Forms and Organization. — The United States has been the traditional home of the small bank, whose position has

been protected in the past by rather artificial restriction on branch banking. There were over 30,000 banks in this country in 1921. But the small banks suffered greatly in the depression of 1921 and during the following seven years more than 4000 banks disappeared, as a result either of failure and liquidation or of consolidation. The movement of consolidation or concentration has gone on apace and has resulted not only in larger banks but in the extension of their functions. National banks combine or affiliate with state banks and trust companies. In this way, they not only secure the greater strength that comes with a large capital, but they coordinate under one management different types of banking which have been found to supplement one another. Where consolidation is impracticable, the same forces have led to the establishment of extensive chains of banks. The chain bank has the advantage of greater financial strength; but the absence of simultaneous examination and consolidated accounting creates opportunities for abuse which may prove serious in the future.

The preceding discussion has been limited to commercial banking with special reference to banks under national control. Commercial banking holds a position of unique importance, for it is the institution which coins personal credit into a means of payment. But there are other important forms of banking, and a complete treatment of the subject would involve an examination of the

TABLE XIV

NUMBER OF BANKS AND AMOUNT OF DEPOSITS: 1928[10]

	NUMBER OF BANKS	DEPOSITS[a]
State banks	15,078	12,725,135,000
Stock savings banks	791	1,561,218,000
Mutual savings banks	616	8,672,823,000
Loan and trust companies	1,633	10,874,503,000
Private banks	404	110,586,000
National banks	7,691	19,300,433,000
Total	26,213	$53,244,698,000

[a] Including postal savings deposits, but excluding all other federal government deposits as well as all interbank deposits. The figures for private banks are incomplete.

[10] Compiled from *Report of Comptroller of the Currency, 1928*, p. 102.

functions and operations of savings banks, of investment banks, land and agricultural credit banks, and trust companies. Indeed, it is impossible to draw a clear line between banking and other financial undertakings. Building and loan associations, private money lenders, note brokers, dealers in securities, investment trusts, insurance companies, all perform functions very much like some kinds of banking. An idea of the number and relative importance of the various types of banks operating in the United States may be gathered from the statement on the preceding page.

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CHAPTER XVI

MONEY AND PRICES

Changes in the Value of Money. — By the "value of money" we mean the purchasing power of money as reported or expressed by the money prices of other things. Money has, in reality, a large number of different values, expressed by the different quantities of different things it will purchase. If the price of wheat is one dollar per bushel, then one value — the wheat value — of money is a bushel per dollar. Similarly, the purchasing power of money in sirloin steaks may be two pounds per dollar. The notion of the general value of money is simply a useful abstraction, based on a broad view of all its different specific values.

When we fix our attention upon *changes* in the various purchasing powers of money, however, we are able to distinguish between changes that are widespread and general, and changes that affect only one or two commodities. For example, a new invention may decrease the price of a particular commodity, without affecting the prices of other things except (if the demand for the commodity is elastic) by shifting demand from other things to the commodity in question, — an effect which would usually be slight so far as the price of any one of these other things is concerned, for the demand would very likely be shifted from many different lines of consumption. Or, if the demand for the commodity in question is inelastic, a lessening of its price may increase the demand for other things. But there are, on the other hand, price fluctuations which are widespread and which show a general trend in one direction or the other, and these we may call, with substantial accuracy, changes in the value of money. What are the underlying causes of these general changes?

The Nature of the Problem. — Our first impulse, perhaps, is to suggest that there is no new problem here, that the value of money is to be determined in the way that other values are

determined. But the task is not so simple as that. The analysis of marginal utility formed the basis of our explanation of the shifting of demand from one commodity to another, but it does not help us to explain the demand for money. Marginal utility depends upon the capacity of things to satisfy human wants, and money does not directly satisfy a single human want, except the abnormal wants of the miser. We want money only as we want the things that money will buy for us.

And when we turn to "supply and demand" we find at first little help. For, when we are discussing the relations between the prices of things and their supply and demand, we usually limit ourselves to the consideration of *one commodity at a time.* That is, we assume that the money price of the one commodity we are considering is alone variable, and that the prices of all other things remain, for the time being, constant. Now the problem of the value of money is the obverse of the problem of the money values of *all* other things. If we were studying the wheat value of money we could assume the sirloin-steak value of money to be held constant. But our present problem is that of the wheat value of money *and* the sirloin-steak value of money *and* all other values of money. We cannot resort to the strategy of breaking the sticks in our bundle one by one.

The Quantity of Money and the Value of Money. — All this does not mean that there is no such thing as a "demand for money." Using the word money in its broadest sense, including all "rights to receive money" that are used in making payments, it is clear that every sale of a commodity may be viewed as a purchase of money, and every purchase of a commodity as a sale of money. Going a step farther, and remembering that one wants money only because of the things money will buy, we may say that every sale of one commodity is a purchase of the power of acquiring other things. A buyer cares not how much money he parts with in exchange for a definite quantity of goods, except in so far as the money has alternative uses of greater or less importance. The quantity of money — the *number* of dollars in the aggregate supply of the instruments in which payments are made — has no significance apart from the *values* of the dollars.

These two things — quantity and value — are in the case of money bound together in a peculiar way. They are, in a very real sense, not only interdependent but interchangeable. A small amount of money of high purchasing power per unit will meet the needs of both buyer and seller just as well as a larger amount of money of lower purchasing power per unit.

The Equation of Exchange. — Some aspects of the general relation between prices and the quantity of money may be conveniently represented by using algebraic symbols. Let M represent the total amount of the generally acceptable media of exchange, including metallic money, government paper money, and bank notes. Let V represent its rate of turnover, or velocity of circulation; that is, the average number of times the various dollars in circulation are exchanged for goods or services during the year. Then MV will represent total actual money payments, measured in money units. Similarly, let the symbol M' represent the transferable "rights to receive money" that are used in making payments. These consist, almost entirely, of bank deposits subject to check. The rate of turnover of bank deposits may be represented by V'. Let T represent the total volume of trade, or, more accurately expressed, the total number of units of commodities and services exchanged for money during the year. Finally, let P represent the *average price per unit* paid for these commodities and services. The equation of exchange may now be stated as follows:

$$MV + M'V' = PT.$$

This is a statement in algebraic symbols of the fact that the amount of money in circulation, multiplied by its rate of turnover, together with the amount of bank deposits subject to check, multiplied by their average rate of turnover, must be equal to average unit prices, multiplied by the number of units of things exchanged for money or for deposit credit. This, in turn, is equivalent to the yet simpler statement that the total amount of money paid for things during the year equals the sum of the prices of all the units purchased. Stated in this way, the equation is readily seen to be true. In fact, it is a truism. But it has the great virtue of emphasizing the interdependence of the factors included in the

equation, and particularly the interdependence of the quantity of money and the price level. Change any factor in the equation and the other factors must change unless they happen to counteract each other. Increase the amount of money and, *other things being equal*, prices must rise. Increase prices and, *other things being equal*, the amount of money must increase. To what extent "are all other things likely to remain equal"?

We cannot measure all factors of the exchange accurately through statistics, although great progress is being made in that direction. But the following probabilities may be stated, in considering which it is important to notice the differences between what happens in the long run and in the short run respectively.

In the first place M and M' are necessarily connected. Additions to the country's stock of money will distribute themselves, ultimately, between bank reserves and hand-to-hand circulation. An increase in bank reserves leads in the long run to an increase in the amount of bank deposits subject to check. An increase in M, therefore, is fairly sure to result in an increase in M'. But because of some uncertainty about the relation between M and M', and also for the sake of convenience, it is better at this point to adopt the broad definition of money, make M include all forms of monetary media, and regard V as the average velocity of money in the broader sense. The equation then becomes $MV = PT$.

In the second place a *sudden* increase in the amount of money in circulation is sure to increase T, the total volume of trade, by leading to increased purchases. But in the long run the increase or decrease of the total volume of trade must depend upon the natural resources of the country, the productive energies of the people, and the degree to which division of labor has been achieved. It can have no permanent dependence upon the amount of money in circulation.

In the third place, a sudden change in either the supply of money or the volume of trade is likely to affect V. But in the long run V depends largely upon the monetary habits of the people, and changes in such habits are slow. In any event, careful statistical studies fail to show any long-time change or secular trend in V. The velocity of circulation, therefore, may probably be safely neglected

in studying the movements of prices through even a considerable number of years.[1]

The statistical studies referred to above do show however a marked short-time or cyclical connection between velocity of circulation and volume of trade. The two move together both in direction and relative extent. As the secular or long-time movement of V is negligible, and the short-time or cyclical variations of V and T are mutually compensatory, it follows, as Mr. Snyder says, that they "are not, normally, factors of influence on the general price level."[2] In symbols $\frac{V}{T} = K$ (a constant), and the equation of exchanges becomes $M = \frac{P}{K}$. Allowing for the long-time or secular growth of trade, therefore, the general level of prices varies directly with the quantity of money in the broader use of that term. In other words, making due allowance for the qualifying factors noted in the preceding discussion, *an increase or decrease in the quantity of money, the volume of trade being constant, must be accompanied by a proportionate general increase or decrease in prices.* This principle, known as "the quantity theory of the purchasing power of money," has long been one of the most important theorems of economics.

The quantity theory of money has given rise to a great deal of controversy. Much of this controversy has been at cross purposes owing to different understanding of the terms and different interpretations of the practical meaning of the theory. Thus P embraces all prices (usually in the form of an index number of general prices) and as such must cover not only commodity prices but security prices, wages, rents, and all other forms of payment. These prices frequently move in opposite directions, and the resultant index number is so complex as to be almost meaningless. The table below (Table XV), showing the movement of wages, rents and prices, illustrates this point. Both the general picture presented in this table and the details concerning it are highly sig-

[1] Carl Snyder, "New Measures in the Equation of Exchange," *American Economic Review* (December, 1924), Vol. XIV, p. 699.

[2] In *loc. cit.*, p. 710.

nificant. Brilliant statistical tests of the equation of exchange have been made by E. W. Kemmerer, Irving Fisher, Holbrook Working, Carl Snyder, and others. These tests tend to confirm that equation (providing that it is properly interpreted) and the mutual dependence of the factors, described above as constituting its principal significance. But they tell us little not already known about the origin of price changes, or which factor is cause and which result.

Looking at the subject in a practical light, certain conclusions may be stated. The common or popular use of the quantity theory is to support the thesis that an increase in the supply of money must lead to a rise of commodity prices. Thus interpreted, the

TABLE XV

MOVEMENTS OF WAGES, RENTS, AND PRICES[3]

GROUP	AVERAGE ANNUAL RATE OF CHANGE 1922–1927 PER CENT
Security prices	+ 9.1
Wages	+ 2.8
Food prices, retail	+ 2.4
Equipment and machinery	+ 1.3
Prices at the farm	+ 1.1
Automobile prices	+ 0.9
Hardware prices, wholesale	+ 0.3
Rents	0.0
Realty values	− 0.1
Cost of living items other than food and rents	− 0.3
Transportation costs	− 1.5
Industrial commodity prices at wholesale	− 1.8
Total (index of general price level)	+ 1.5

[3] F. C. Mills, "Price Movements and Related Industrial Changes," President's Conference on Unemployment (Herbert Hoover, Chairman). Report of the Committee on *Recent Economic Changes* (The McGraw-Hill Book Co., New York, 1929), Vol. II, p. 632. The precise meaning of these figures can only be understood after examining both Mr. Mills's method of computing "average annual rate of exchange" and the sources from which he took the groups of prices or payments. The figure representing "average annual rate of change" is in each instance "obtained from the value r, derived when a curve of the type $y = ar^x$ is fitted to the series in question." For a more detailed discussion of this method, see Mills, *The Behavior of Prices* (The National Bureau of Economic Research, New York, 1927), Chapter I, Section III.

quantity theory is simply untrue, over short periods of time. For instance, when paper money is turned out in enormous volume by government printing presses, as in Germany and Russia after the war, prices usually rise much more rapidly then the quantity of money. In the United States, after the collapse of the speculative boom of 1919, the decline in commodity prices preceded the reduction in the volume of money. After 1921, to take another example, when gold was flowing very quickly into this country, a rapid rise of prices was predicted. But the commodity prices did not rise as predicted, whereupon some of the foreign experts complained that the American banking authorities were "sterilizing gold."

On the other hand, in the long run, even the popular or naïve interpretation of the quantity theory is frequently borne out by the facts. A persistent and continued expansion of the monetary media will almost certainly be followed by higher price levels. A long continued and persistent contraction of the monetary media, particularly gold, is likely to lead eventually to falling prices. Thus between 1873 and 1897 the volume of trade increased more rapidly than the supply of money. During that period there was a general fall in commodity prices. Historical illustrations of rises in the price level following increase in the volume of gold or other forms of money have occurred many times and have been noted in the general discussion of money and banking.

The Mechanism of General Changes in Prices. — The quantity theory of prices, even when stated in the form of the equation of exchange, tells us nothing about the *process* of general price changes; nothing, that is, about the mechanism by which changes in the quantity of money lead to general changes in prices. Just *how* are these general changes in prices brought about?

Take an artificially simple case. Imagine an isolated community with no foreign trade and with no banks. Suppose that a group of men finds a long-forgotten hoard of gold, large even as compared with the existing stock of gold in circulation. Without increasing their own activities as producers the finders are now able to purchase larger quantities of goods. These additional purchases, it is important to note, are the direct result of the increase in the supply of money, and could not have been made

without it. The merchants into whose hands the money comes, expend it to replenish their stocks and for other purposes. And so the money passes from hand to hand, increasing the number of exchanges.

But this increase in the volume of trade cannot be the end of the process. More goods than before are passing into the possession of their ultimate consumers. The country's stock of exchangeable goods is being *depleted* more rapidly than it can be replenished out of the country's normal agricultural and industrial output. In short, the purchasing power of the community, *at the old level of prices*, is now more than sufficient to buy the current output. Under the pressure of competing purchasers, desiring to exchange money for goods, prices will rise. And if the industrial output cannot be permanently increased the rise in prices will be proportionate to the increase in the money supply, so that finally the larger supply of money will have brought with it no permanent increase in the number of exchanges.

The conditions under which general price changes occur in actual life are much more complex, and yet there is no reason to suppose that in its fundamentals the process is essentially unlike that which we have just outlined. There is, however, the difference that additions to the supply of money usually find their way at first into bank reserves, where their immediate effect is to lower the discount rate and to make bank loans easier to obtain. Increased bank lending results in larger bank deposits, and the immediate purchasing power of the community, in the form of its power to draw bank checks, is correspondingly increased. Prices must rise, and this will draw a larger amount of money into hand-to-hand circulation. With higher prices people will find it convenient to keep somewhat larger amounts of money on hand as "pocket-money." Finally, unless new disturbing factors appear, equilibrium will be reached between the amount of money in bank reserves and the amount of money in hand-to-hand circulation.

It seems probable, then, that the sequence of processes by which an increase in the supply of money actually brings about a general increase in prices may often be (1) larger bank reserves, (2) more lending by the banks, (3) larger bank deposits, (4) more

purchases, (5) higher prices, (6) more money drawn into hand-to-hand circulation. Prices get their initial upward impetus from the larger bank reserves, but the increase in the amount of money in hand-to-hand circulation helps to support and maintain the higher price-level.

Thus far, however, we have neglected to take account of the very important facts, (1) that gold has other than monetary uses, (2) that the production of gold will itself depend in part upon its purchasing power, and (3) that international gold shipments are also partly dependent upon the relative purchasing power of money in one country and another. Leaving the last of these three topics for treatment in another chapter in connection with the general subject of international trade, we pass now to the discussion of the other two.

The Relation of the Industrial Uses of Gold to Prices. — From the estimates of the Director of the Mint it appears that in ordinary years from a fourth to a third of the world's annual production of gold finds its way into industrial uses. The United States mints and assay offices refine nearly all the crude gold bullion produced in or brought to this country, and allow the depositor to take the proceeds in money or in bars of gold for industrial use, as he prefers. But even without this convenient arrangement there would be a constant balancing or comparison of the relative advantages of the industrial and monetary uses of gold. The number of dollars which can be got by selling gold *for* money and by actually using gold *as* money, must, of course, always be approximately equal.

More than that, there are two things which help to fix the ratios of exchange between gold and other commodities. Consumers, on the one hand, are constantly weighing the marginal utility of objects made from gold against the marginal utility of other things. Producers, on the other hand, are weighing the relative profitableness of producing things made from gold and things made from other materials. It is clear that gold will be distributed between its industrial and monetary uses in such a way as to make the exchange ratios of gold and other things in the two uses equal. If, for example, an increase in the stock of money (whether gold

or not) results in increased prices (*i.e.* in decreased values of gold as money), a larger amount of the gold annually brought to the mints will tend to flow into industrial uses, and thus to limit the increase in the amount of money and the consequent rise in prices.

The Relation of the Expenses of Gold Production to Prices. — There is another way in which society makes direct comparisons between the value of gold and the value of other things. Mining is subject to the law of increasing expenses, and the tendency of prices to equal the maximum expenses of production per unit obtains in this industry. Not only are there marginal mines, mines which it just pays to operate, but in the most productive mines there are margins, — certain depths, for example, beyond which the expense of mining more than eats up the value of the product. Through the operators of mines, society is continually comparing the cost in labor and capital of producing gold with the cost of producing the things that can be bought with gold. If the gold produced at the margin will purchase things which consumers deem of less importance than other things which might have been produced at no higher costs, capital and labor will gradually be shifted from their marginal use in gold mining to the production of other things. Here, then, as in the case of the balancing between the monetary and industrial uses of gold, we have a direct value-comparison of gold and other things.

Some years ago the Bureau of the Mint undertook an investigation into the relation of the expense of gold mining to the amount of gold produced. The conclusion reached is worth quoting in this connection:

> In every mining district there are mines producing at good profits, mines producing at small profits, mines barely paying expenses, and mines operated at a loss, but with the hope that they will do better. Every increase in costs would submerge the latter more deeply, add to the list of the unprofitable, and probably close some of them. . . . A higher scale of working costs will bring losing experiments to an earlier conclusion, reduce profits, and make mining ventures generally less attractive, and thus diminish the output.[4]

To summarize: Marginal utilities and subjective values are found in the industrial uses of gold. The particular form of the

[4] *Report on the Production of the Precious Metals* (Government Printing Office, Washington, D. C., 1904), p. 41.

law of normal price that is operative in agriculture also holds true in gold mining (although it has to be stated in a somewhat different way). An increase in the supply of gold diminishes its marginal utility in industrial uses. This is bound to decrease the values of gold as money, on account of the ease with which the supply of gold can be shifted to one use or the other. Such a rise in prices, however, cannot continue indefinitely. The increase of prices and wages brings increasing expenses in gold mining, and, unless new gold mines are found or cheaper ways of getting gold from old mines are invented, the output of gold will have to decrease.

These things have a steadying influence upon the long-run movement of prices. Tendencies toward extreme rises or falls are held in check by the resulting changes in the expense of mining gold and by the automatic changes in the proportions of the annual gold product that flow into monetary circulation and into industrial uses. It is in these ways that the significance of the fact that the monetary *standard* is itself a commodity appears.

The Increase in the Production of Gold. — Although probably more gold was produced between 1850 and 1875 than from 1492 to 1850, yet, as Table XVI shows, the annual production of gold since 1896 has been from two to three times as large as it was between 1850 and 1875. Most of this great output of gold, as Table XVII indicates, comes from relatively few countries. At present the British empire supplies over 70 per cent and the United States (including Alaska) less than one eighth of the total product. The causes of this enormous increase were, in part, the opening up of new gold fields in Canada, Alaska, Colorado, and especially in South Africa, and in part improved methods of extracting gold from low grade and refractory ores, in which connection the development of the "cyanide process" was of especial importance. Dredging for gold in the beds of rivers which drain gold-yielding lands was a development of considerable importance. Notwithstanding the decrease in the value of gold, the bulk of the gold produced in California in recent years has been from ore bodies that thirty or forty years ago were generally considered worthless.

The effects of this enormous output were felt in both Europe and America in a general increase of both prices and wages. In

the United States, for example, the general level of wholesale prices in 1913 was higher by 50 per cent than in 1897. That increase was small, however, as compared with what occurred during and immediately after the World War. In May, 1920, the general level of wholesale prices in the United States was 147 per cent higher than in 1913. In other countries the increase was even greater. Not gold production but the expansion of paper currencies and of bank credit was responsible for this extraordinary rise in prices. The production of gold, in fact, declined, owing to the increased expense of gold mining due to the rise in prices. In 1913–15 the annual output of gold was the largest in history. Then it fell off rather rapidly until 1922, since when it has steadily increased. It is probable also that the world's stock of gold money per capita has increased slowly in recent years. But neither the increase in

TABLE XVI

PRODUCTION OF GOLD IN THE WORLD SINCE 1841

(From 1841 to 1885 the estimate is from a table compiled by Dr. Adolph Soetbeer; for the years 1886 to 1925 the estimates are those of the Bureau of the Mint.)

PERIOD	ANNUAL AVERAGE FOR PERIOD	
	Fine Ounces	Value
1841–1850	1,760,502	$ 36,393,000
1851–1855	6,410,324	132,513,000
1856–1860	6,486,262	134,083,000
1861–1865	5,949,582	122,989,000
1866–1870	6,270,086	129,614,000
1871–1875	5,591,014	115,577,000
1876–1880	5,543,110	114,586,000
1881–1885	4,794,755	99,116,000
1886–1890	5,461,282	112,895,000
1891–1895	7,882,565	162,947,000
1896–1900	12,446,939	257,301,100
1901–1905	15,603,730	322,619,800
1906–1910	20,971,575	433,520,900
1911–1915	22,212,446	459,171,936
1916–1920	18,943,464	391,596,112
1921–1925	17,454,889	360,824,583

TABLE XVII

RECENT PRODUCTION OF GOLD IN DIFFERENT COUNTRIES [5]

COUNTRY	1897	1904	1920	1926
Africa	88	129	283	341
Australia	97	132	36	16
United States and Alaska	86	121	77	70
Russia	35	37	2	31
Canada	9	25	24	55
British India	12	18	14	12
Mexico	11	19	23	24
China	9	7	5	3
All others	26	35	40	47
Total	355	523	504	599

total product nor that in gold money per capita has been as great as the annual increase in the volume of production or trade. Whether this condition will lead to a fall in prices probably depends upon the volume of bank credit and credit money based upon this gold. So far as prices are concerned, credit now exercises a more direct influence than gold. The volume of credit is subject to conscious control in a sense in which the quantity of gold is not. An inquiry into the stabilization of the purchasing power of gold has been initiated by the Council and the Financial Committee of the League of Nations. "The result of that inquiry is likely to be of immense importance to the world." [6]

Monetary Inflation. — The general movements in prices that follow upon changes in the output of gold usually take the form of steady trends upward or downward through fairly long periods of years. Sharply contrasted with these slow oscillations that result from the play of the varied forces of supply and demand are the violent upheavals brought about by arbitrary expansions and contractions of the volume of the media of exchange. Metallic money does not lend itself, except by debasement, to such manipu-

[5] From *Reports of the Director of the Mint.* The figures are given in thousands of kilograms.

[6] Joseph Kitchin, "Gold Production: A Survey and Forecast," *The Review of Economic Statistics* (May, 1929), Vol. XI, No. 2, p. 67.

lation. But paper money is a more pliable instrument, subject to increase or decrease in quantity according to the needs or caprices of the governments which issue it.

Inflation is an increase in the currency sufficiently large to bring about, within a relatively short time, a marked rise of prices. As paper money is generally the instrument, so war is the most important cause of inflation. War calls for expenditures vastly greater than can be met by the ordinary revenues of the State. There are, in general, three different ways in which additional funds may be secured: (1) by levying heavier taxes; (2) by borrowing, — as, for example, by selling interest-bearing bonds; (3) by issuing non-interest-bearing promises to pay and putting them into circulation as money. Contrast the economic effects of the first method and the third. The first method need have no inflationary effect upon the general level of prices. The third method, on the other hand, is necessarily accompanied by inflation. We shall try to make this important distinction clear.

Taxes *transfer* purchasing power from taxpayers to the government. The money incomes of the taxpayers of the country are reduced in nearly the same amount that the funds at the disposal of the government are increased. The country's aggregate demand for goods and services is not increased. The government is able to buy more, but only in so far as taxpayers are able to buy less. Particular prices will change, and there will even be perturbations and maladjustments of the general system of prices — for the government's demand for munitions and military supplies will be concentrated on a relatively small range of commodities — but there need be no general rise of prices as a whole. Conceivably, it is true, men might borrow money with which to pay their taxes, and such borrowings might lead to an expansion of bank credit. But, in practice, banks generally do not lend any large amounts for tax-paying purposes. If taxes are unduly heavy, however, men may be forced to borrow more for *other* purposes.

The effects of paying for a war by issuing paper money are quite otherwise. Such issues *increase* the number of dollars (or other money units) that are offered for goods and services. The government, provided with new money of its own making, comes into

the market as a competing buyer of goods and services. Prices are bid up to the point where the money outlays of individual buyers plus the expenditures of the government just suffice to pay for the total national product. This method of financing a war thus involves a disguised form of taxation. Money is not itself transferred from individual incomes to the government. Its *purchasing power*, however, is diminished and, in a manner, transferred.

Individual money incomes, in fact, are promptly *increased* by the exact amount of the government's money outlay. Those who first receive money from the government pay it out again, adding to the money incomes of others, and increasing the demand (measured in money) for goods and services of various sorts. In this way, as the new money passes into general circulation, it brings about an increase in the general level of incomes and prices. If happily the inflating of the currency comes to an end, the general price system will ultimately be adjusted to a new and higher level. But, during the period of transition, much injury will have been done. Persons living on fixed incomes will have suffered. Wages, for a while at least, will not have advanced rapidly enough to keep pace with the rising cost of living. Creditors will have lost part of the value of their capital. Rising prices will have given a temporary stimulus to business, — to be followed by reaction. Some business men will have been in a better position than others to take advantage of the rapid shifting of demand. New fortunes will have been made. In short, the burden of the disguised taxation to which reference has been made will have been unevenly and unjustly distributed. Such, in general, it will be remembered, were the phenomena of the greenback period and of the paper money periods in our colonial history.

It is unlikely that the rise of prices resulting from the creation of paper money will be exactly proportionate to the increase of the currency. Various disturbing factors may prevent such an outcome. Two of these factors are especially important. In the first place, if gold is in general circulation, the rise of prices, by reducing its purchasing power, will drive some gold into other uses. In so far as paper money merely displaces gold it does not consti-

tute a net addition to the volume of the currency. In the second place, the rise of prices will inevitably be attended by certain changes in the current of the country's foreign trade. Inflation does not spend all of its force upon a country's domestic price level. This, however, is a matter which must be reserved for fuller discussion later.

Government Loans and Inflation. — Taxation, we have seen, transfers purchasing power, while paper money issues swell its volume. Borrowing, as by the sale of government bonds, might seem at first thought, so far as its effect upon prices is concerned, to be rather more like taxation than like paper money inflation. For does not the lender (the buyer of government bonds), like the taxpayer, merely transfer funds to the government? Such would in fact be the case if the loans made to the government always came from the actual savings of the lenders, — that is, from income which would have been spent rather than saved if it had not been for the government's borrowings. In practice there is likely to be some increase of savings as a patriotic response to the government's appeal for loans. But as compared with the enormous outlays modern warfare requires, the net increase of saving is bound to be, in the aggregate, totally inadequate. And the savings, such as they are, must be spread over a considerable period of time, while the government's needs are imperative and immediate.

Individual investors in government bonds are not able to take them in large quantities except by the aid of the banks. Often a considerable part of the purchase money is advanced by the banks in the form of deposit credits, the bonds being used, perhaps, as collateral to secure the necessary loans. Or the bonds may be paid for with funds which would otherwise have been placed at the disposal of other borrowers, — business establishments, very likely. The needs of these other borrowers can then be met only by an expansion of bank credit. (Extremely heavy taxation, it should be noted, would also, and in the same manner, drive borrowers to the banks.)

It follows that large offerings of government bonds can be absorbed by the market only by the aid of the inflation of bank credit,

except in so far as the marketing of the bonds results in (*a*) the curtailing of consumers' expenditures, or (*b*) the diminishing of the amount of money invested in business undertakings — aside from those undertakings that are receiving their sustenance from the increased outlays of the government. In practice, some part of the money advanced to the government is drawn from the two sources just named; that is, from really *new* savings or from funds diverted from productive undertakings. But in larger part such advances are effected by means of the inflation of bank credit.

In fundamentals, the phenomena of inflation are the same, whether inflation comes through the creation of government paper money or through the expansion of bank credit.[7] The increase of purchasing power (measured in money units) raises prices; rising prices make expenditures larger, thus calling for an increase in the rate at which paper money is being issued or bank credit is being created. Inflation, once begun, tends to increase in a cumulative way, each step in the process calling for yet another step. Commonly the increase in the volume of paper money or of bank credit becomes so great that governments or the banks, as the case may be, are unable to redeem their obligations in gold upon demand. With the suspension of specie payments the last obstacle to the rapid further increase of inflation is removed.

During the World War only its favorable balance of international payments and the existence of the federal reserve system, through which its gold reserves were mobilized and economized, saved the United States from suspending specie payments. Other countries engaged in the war were not so fortunate. The general measure of the degree of inflation between 1913 and 1920 and of its results is given by the figures in Table XVIII. Even after 1920, in those countries which, because they lacked either the will or the means, failed to employ heroic methods to restrict or limit inflation, it grew at an amazing rate. In Germany the amount of paper marks (bank

[7] The most important difference is that government paper money may itself be used in bank reserves, thus affording the basis for a proportionately larger expansion of bank credit. In practice, it is likely, the use of taxation as the sole means of financing the war — something both politically and economically impossible — would have been attended by *some* inflation, although less than what was, in fact, brought about by government borrowing.

TABLE XVIII

Inflation during and after the World War [8]

Country	Monetary Unit	Government Notes		Bank Notes		Deposits in Commercial Banks		Wholesale Prices 1920 ÷ 1913
		1913	1920	1913	1920	1913	1920	
France	Franc	—	—	5,714	37,902	5,977	17,500	5.1
Italy	Lira	499	2,545	2,283	19,731	2,951	25,781	6.2
United Kingdom	Pound	—	368	35	119	1,071	2,549	3.1
Germany	Mark	149	316	6,083	81,071	9,642	83,891	14.9
Canada	Dollar	160	351	105	229	1,067	2,136	2.5
United States	Dollar	343	339	726	4,017	12,750	31,148	2.3

[8] The figures, except for prices, are in millions. The wholesale price figures are index numbers; that is, 1913 being taken as unity, the price level of 1920 is expressed proportionately. In the case of the United States, the figures relate to the middle of the year specified; for other countries they relate, in general, to the end of the year. The price figures, however, are annual averages. Some of the figures, especially those for deposits, are not exactly comparable as between different countries. The increase shown in Canadian Dominion Notes is not especially significant, for most of them were held in bank reserves.

notes) in circulation had reached, by September 1924, the meaningless total represented by 1,520,511 with fifteen additional ciphers. In Russia in March 1924 the paper circulation (government notes) had to be expressed in the incomprehensible magnitude of quadrillions (768,000,000,000,000,000 rubles).

Deflation. — How can a government which has grossly inflated its currency ultimately get back to a gold basis? By flat repudiation of the inflated issues? By taking the costly and heroic measures required to redeem the inflated issues in gold at par, as Great Britain did after the war? Or by an intermediate course, such as that taken by France in ultimately redeeming its paper money at about $\frac{1}{5}$ of the gold content of the pre-war franc? In short, what are the methods and the results of deflating swollen currencies?

By deflation we mean an arbitrary or planned decrease in the volume of money or of bank credit, accompanied by falling prices. The most important *object* in view in deflating the currency is the restoration of a stable monetary standard, with the advantages such a standard gives in the transaction of domestic and foreign trade. The *methods* which must be employed to secure deflation must be, it should be clear, the opposites of those which bring about inflation. In particular, government paper money must be retired with funds secured by taxation. Bank credit must be reduced by the reduction of the government's debts to the banks and by the increase of actual savings within the country. Here again the one essential instrument is taxation.

Deflation may also be accomplished, in effect, by the complete or partial repudiation of the obligations of the government or of the banks. Partial repudiation occurs when the government or the banks redeem their obligations, but at a discount or in a monetary unit reduced in size. The morality of repudiation has been much discussed. Can it be right for a government to dishonor its own obligations? One is likely at first to reply promptly in the negative. But further consideration is sure to suggest to us that something is to be said on the other side. As we have seen, inflation is accompanied by a heavy burden of disguised taxation, unequally distributed. Some few people gain, many others lose,

during a period of rapidly rising prices. Even if the depreciated currency could quickly be brought back to par by adequate provisions for redeeming it, a new series of burdens and injustices would be created. Heavy taxation would be necessary, and it is wholly unlikely that the bulk of its weight would fall upon those who have profited rather than lost in the period of inflation. The falling prices and changing incomes that accompany deflation would undoubtedly tend, in some slight measure, to redress the balance; that is, to benefit those whom inflation had injured. But the compensation would be partial and inadequate. The wrong done by inflation cannot be undone by deflation.

Complete repudiation, if it comes while the depreciated currency yet retains any value, is itself equivalent to taxation so imposed that its direct burdens fall upon those who hold money or credits payable in money. Partial repudiation may involve nothing beyond the recognition, legalization, and attempted stabilization of an existing status. Such would be the case, for example, if arrangements were made for redeeming a paper currency in specie, with a monetary unit so chosen as to be worth about as much as a unit of the depreciated paper currency. In practice, it would probably be better to make the specie monetary unit a little larger, so that the paper currency would be redeemed at a slight premium as compared with its depreciated value.

The right policy with respect to deflation or repudiation has to be determined, after all, in the light of actual economic and political possibilities. Thus, where the amount of deflation and consequently the degree of depreciation is not forbiddingly large the restoration in full of the old monetary standard is undoubtedly desirable. One of the strongest arguments for such a restoration is that it is at best a difficult and expensive undertaking, accompanied by the evils of business depression and of heavy taxation. The pains of deflation are such as to constitute a warning against inflation. Where inflation has gone so far that deflation is impossible or unwise, partial repudiation, involving the creation of a smaller metallic monetary unit, is the best alternative. The restoration of a specie standard and the stabilization of the currency is something to be achieved as promptly as possible.

Finally there are, as we have seen, cases in which anything but complete, or practically complete, repudiation may be dismissed as impossible. Again, the sooner the inevitableness of such an outcome is recognized and acted upon, the better.

Index Numbers. — General changes in prices are indicated statistically by the use of index numbers. An index number, in the most general sense, is a number which *varies with* some group or complex of variable items, and whose variations can therefore be taken as representing or *indicating* the other variations. In studying the variations of the prices of some specific thing we need no index number; but when we have to deal with the variations of many different prices, we find the use of index numbers necessary.

A common way of forming an index number is to take an ordinary arithmetic average of the relative or percentage changes of the prices of the different commodities. By this method the price of each commodity at different successive dates is set down as a *per cent* of its " base " price, *i.e.* of its price at some one specific date (or of its average price during a certain period). In this way, for example, index numbers of the prices of fruit might be constructed as follows:

Date	Actual Prices (Cents per Dozen)			Relative Prices			Index Numbers
	Bananas	Oranges	Peaches	Bananas	Oranges	Peaches	
Basing date	15	40	25	100	100.0	100.0	100.0
One month later	20	50	20	133	125.0	80.0	112.7
Two months later	21	45	30	140	112.5	120.0	126.2

Index numbers constructed in this way are not very trustworthy. Suppose that wheat advances from $1 to $2 per bushel while at the same time corn falls from $2 to $1 per bushel. Assuming that wheat and corn are equally important, it is clear that an index number should show no net or general change in their prices. And yet, by the method we have illustrated the new price level would be 25 per cent higher than the old one. Or if the later period be taken as the base a *fall* of prices of 20 per cent (*i.e.* from 125 to 100) would be indicated. In general, when the

earlier of any two periods compared is taken as the base, the method exaggerates a rise of price and understates a fall. When the later of the two periods is taken as the base the method understates a rise and exaggerates a fall. For these reasons it is better to use a geometric average (the nth root of the product of the relative prices of n commodities). The geometric mean of the relative prices of wheat and corn, in the example as given above, is $\sqrt{200 \times 50}$, or 100 — thus indicating, as it should, no general net change of prices.

In the actual making of index numbers the prices of from fifty to two hundred commodities, or even more, are used, — although for some purposes a smaller number may suffice. If the most accurate results are desired, *weighting* the different prices in accordance with the relative importance of the different commodities is necessary. Accurate weighting is especially important in forming index numbers from a small list of price quotations. If a very large list of prices is used, errors due to the lack of weighting or to imperfect weighting tend to offset each other, — for there is no necessary connection between the importance of a commodity and the degree to which it has risen or fallen in price. But even with a large and thoroughly representative list of prices, the highest degree of accuracy cannot be reached without careful weighting. Large variations in the prices of unimportant commodities, and small variations in the prices of important commodities must be given their due importance, and no more.

The use of weights makes it possible to dispense with ordinary averages and to construct index numbers of the *aggregative* type. If, for example, we think that twice as many bananas as peaches are ordinarily used, and three times as many oranges as peaches, we compute a *weighted sum* for the first date, as follows: .25 plus $(2 \times .15)$ plus $(3 \times .40)$, or \$1.75. For the second date the weighted sum is \$2.10, and for the third date \$2.07. These sums or aggregates may then be expressed as per cents, using whatever date we please as the basis of comparison. Making the first date the base, our index numbers are 100, 120, and 118. Aggregative index numbers, it has long been recognized, are especially appropriate instruments for measuring changes in the cost of living. So used,

their components are the retail prices of foods, fuel, and other commodities, together with the cost of rent, lighting, etc., all weighted in accordance with their relative importance in family budgets. The one difficulty is that as prices change consumers buy more of some things and less of others, so that the weights appropriate for one period are inaccurate at another period. This difficulty can be surmounted by, first, ascertaining what the index number of the cost of living in the second year would have been if the quantities of different goods consumed had remained unchanged; second, ascertaining what it would have been if quantities of goods consumed in the first year had been what, in fact, they were in the second year; and, third, taking the mean of the two results. Or, a single index number may be computed, using as weights the sums of the weights indicated by the budgets of the first year and second year respectively.

Algebraically this index number may be represented by $\frac{\Sigma(q_0 + q_1)p_1}{\Sigma(q_0 + q_1)p_0}$ where p_0, p_0^1, $p_0^2 - p_0^n$ represent the prices of the various commodities in the base year; p_1, p_1^1, $p_1^2 - p_1^n$ the corresponding prices in the year to be compared with the base year; q_0, q_0^1, $q_0^2 - q_0^n$ the respective quantities in which the commodities are purchased in the base year; and q_1, q_1^1, $q_1^2 - q_1^n$ the corresponding quantities in the year of comparison. Professor Irving Fisher after a monumental technical study concludes that the "ideal index number" is that represented by the formula

$$\sqrt{\frac{\Sigma p_1 q_0}{\Sigma p_0 q_0} \times \frac{\Sigma p_1 q_1}{\Sigma p_0 q_1}}.$$

In both formulae "Σ" does not mean a quantity, but in Professor Fisher's words "the sum of terms like the following sample." In results, the ideal formula seldom differs appreciably from the simpler formula first given above, which is much more easily computed.[9]

Aggregative index numbers, it has been found, may be advantageously used also for measuring general changes of wholesale

[9] Irving Fisher, *The Making of Index Numbers* (Houghton Mifflin Co., New York. 1923 ed.), pp. 28, 361, *passim.*

TABLE XIX

INDEX NUMBERS OF PRICES IN THE UNITED STATES, 1890–1920

(Revised figures — U. S. Bureau of Labor Statistics)

YEAR	GENERAL PRICES	PRICES OF FOOD	
		Wholesale	Retail
1890	81	86	
1891	80	85	
1892	75	79	
1893	77	85	
1894	69	75	
1895	70	74	
1896	67	69	
1897	67	71	
1898	70	74	
1899	75	74	
1900	81	79	
1901	79	79	
1902	84	83	
1903	86	81	
1904	86	84	
1905	86	86	
1906	89	83	
1907	94	89	82
1908	90	91	84
1909	97	97	89
1910	101	101	93
1911	93	97	92
1912	100	104	98
1913	100	100	100
1914	98	102	102
1915	101	105	101
1916	127	121	114
1917	177	167	146
1918	194	188	168
1919	206	207	186
1920	226	220	203

prices, of the quantities of goods produced or consumed, of the volume of trade, and of other economic phenomena. Their only close rival in accuracy is a properly weighted geometric average. Wholesale prices, it may be needless to add, should not be weighted in accordance with the importance different commodities have in consumers' budgets, but rather in accordance with their importance in production or exchange. The careful student of fluctuations in the value of money will not content himself with index numbers of the general movement of wholesale prices. He will want to observe, for example, the way in which certain types of commodities rise and fall in price more rapidly than others, how world prices and domestic prices are related, how the prices of agricultural products change as compared with the prices of manufactured goods, and how wholesale prices, retail prices, wages, and the cost of living are interrelated. The whole subject of index numbers is full of subtle difficulties, some of them mathematical, but more of them demanding primarily a clear-headed analysis of the economic problems involved.

The Standard of Deferred Payments. — The relation of changes in the purchasing power of money to long-time debts and credits has some very important aspects. If prices increase, the purchasing power of the principal of a loan is less at the time of repayment than at the time the loan was made. If prices decrease, the reverse is, of course, true. In periods of cheap money agitations the additional burdens imposed upon debtors by decreasing prices are always emphasized. An important function of money, then, is found in its use as a *standard of deferred payments.*

There is a partial, but only partial, compensation for the injustice done to debtors and creditors by general changes in prices in the fact that the interest rate usually increases when prices increase and decreases when prices decrease. Generally this is because rising prices increase profits, thus inducing business men to pay higher interest rates in order to secure larger supplies of funds for investment; while falling prices decrease profits and lessen the demand for funds. Or when the purchasing power of money is rapidly depreciating, as in Germany in 1923, lenders may demand higher interest rates because they foresee the shrink-

age in the value of their principal. Whatever the cause, the result is that the changing purchasing power of the principal of a loan is to some slight extent offset or discounted by changes in the rate of interest. The decline in interest rates as prices fall sometimes enables debtors to pay off their old obligations with funds borrowed at a lower rate of interest. Creditors cannot so easily take advantage of the fact that interest rates are increasing when the purchasing power of the principal of their outstanding loans is decreasing. Nevertheless, more emphasis has been given to the question of the standard of deferred payments in periods of declining prices, when debtors are injuriously affected, than in periods of rising prices, when creditors are the losers.

Proposals have often been made for introducing a *tabular standard of deferred payments*. This would require that laws be enacted providing for increasing or diminishing the principal of debts according to changes in prices, as shown by an officially kept index number. On more than one occasion, in fact, peoples subjected to the evils of a rapidly depreciating medium of exchange have availed themselves of a tabular standard of deferred payments. Thus Massachusetts, in 1742, provided that for use in the payment of debts her colonial bills of credit should be periodically revalued in accordance with the price of silver and of bills of exchange.[10] Five years later it was enacted that "prices of provisions and other necessaries of life" should also be taken into account. Similar provisions were made in other colonies. Again, in 1780, the following provision was made for the payment of Massachusetts troops serving in the Revolutionary War:

> Both Principal and Interest to be paid in the then current Money of said State, in a greater or less sum, according as Five Bushels of Corn, Sixty-eight Pounds and four-sevenths Parts of a Pound of Beef, Ten Pounds of Sheeps Wool, and Sixteen Pounds of Sole Leather shall then cost, more or less than One Hundred and Thirty Pounds current Money, at the then current prices of the said articles.

More recently, in the period of currency upheaval following the World War, the tabular standard has been used. In some

[10] W. C. Fisher, "The Tabular Standard in Massachusetts History." *Quarterly Journal of Economics* (May, 1913), Vol. XVII, pp. 417–451.

instances a tabular standard has been specified by the forms of particular contracts made by debtors and creditors. In Poland in 1923 the tabular standard of deferred payments was legally in force. More commonly under such conditions, however, lenders prefer to make contracts providing for the increase of the amount of the principal to be repaid in accordance with the change of the value of gold. In Europe during the period following the war it was common practice to make contracts payable in dollars, instead in of local currencies. This did not generally mean that the debtor was obligated to pay in United States money or in bills of exchange upon the United States. It usually meant merely that the amount of domestic currency he obligated himself to pay would depend upon the price of dollars in terms of that currency. Several European countries provided by law for a gold "money of account" to be used to ensure the stability of contracts. The difficulty with using gold or gold exchange under such conditions as a standard of deferred payments is, as Massachusetts found in 1747, that variations in the value of the precious metals may be wholly disproportionate to the variations of the domestic purchasing power of the depreciated currency.

The tabular standard of deferred payments, on the other hand, encounters many practical difficulties. For example, which is the better measure of the magnitude of a change in the value of money: The average change in the purchasing power of the money consumers expend? Or the general change in the difficulty of acquiring money? More concretely, should a tabular standard of deferred payments be governed by changes in the prices of commodities, by changes in wages and other incomes, or by changes in the prices of commodities *and* of services?

Probably the grievances of debtors and creditors have been overemphasized as compared with other important economic problems created by general changes in prices. These other problems include, as we have already seen, the effect of price fluctuations on business enterprise and upon the distribution of money incomes.

Proposals for a tabular *monetary standard* go distinctly farther than those for a tabular standard of deferred payments. The

purpose of the tabular monetary standard would be not to scale debts and credits up or down but rather to provide a mechanism which would prevent any large fluctuations in the amount of purchasing power they represent, as well as to do away with the other evils born of large fluctuations in the general level of prices. Different methods of putting a tabular monetary standard into effect have been suggested. Some would go so far as to give up the use of any standard commodity and to attempt to regulate prices by using fiat money and increasing or decreasing the quantity of it in circulation in such a way as to keep prices stable. Such a plan in practice would be virtually certain to encounter shipwreck. Experience has shown again and again that it is easy to induce governments to expand the circulation and increase prices and that it is generally exceedingly difficult to induce them to reduce the quantity of the circulation so as to depress prices. In fact, for reasons we have already examined, the use of fiat money is impractical.

Professor Irving Fisher, among others, has suggested that the dollar might be " stabilized " by making the real monetary standard a variable amount of gold bullion. If the official index number should show advancing prices, the mint price (in gold bullion) of gold coins would be slightly increased and at the same time the gold coins in circulation would be made redeemable at the treasury in (nearly) as much gold bullion as constitutes the increased mint price of the coin. If prices show a continued tendency to increase, the gold dollar would virtually become a gold certificate for a considerably larger amount of gold bullion than it contains. In fact, as Professor Fisher suggests, it would really be unnecessary to convert gold into coin. Gold certificates could take the place of gold coins in circulation and in bank reserves. The monetary stock of gold would be nothing but bullion in the government's vaults. The government, in effect, would exchange gold certificates for gold, either as buyer or seller, at rates calculated to maintain a uniform general level of prices. In our present monetary system the price of gold is fixed and the prices of all other things are variable. Professor Fisher's plan is that the general or average price of all other things should be fixed, the price of gold

being variable. This plan could be so operated, Professor Fisher believes, as practically to eliminate general price changes.

It seems clear that no one nation could introduce such a plan, because it would cause highly objectionable fluctuations in the price of foreign exchange and in the domestic prices of imported goods and of imported exports. Moreover, like fiat-money schemes, it puts the control of the general level of prices in the hands of the government or of some authority designated by the State. It should be remembered, also, that the most harmful fluctuations of the general level of prices are those which come either from inflation or from the expansion and contraction of bank credit. To attempt to offset or neutralize the effect of inflation or of credit expansion by tinkering with the gold standard appears to be an awkward and unnecessarily roundabout way of attacking the problem. The gold standard is far from perfect; but it has the one great advantage that its variations are automatic, the result of market forces rather than of governmental manipulation.

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CHAPTER XVII

BUSINESS CYCLES

One of the most fascinating and important aspects of modern economic activities is their wave-like movement from time to time. This movement, if not rhythmic or periodic, is cyclical, in the sense that the alternating phases of expansion and recession recur continually and, as some authorities think, almost inevitably. The particular form of cyclical movement which first attracted the scientific interest of economists was the commercial crisis, accompanied by industrial paralysis and, as the Swiss economist Sismondi pointed out in 1819, by "cruel sufferings of the industrial workers."

Sismondi was the first systematic investigator of the business cycle. Since he began his studies, in the first quarter of the nineteenth century, the scientific investigation of the subject has progressed so far that its literature and technique have become almost overwhelming. A "selected" bibliography of "Books about Business Cycles," published in 1928, lists 966 different titles; and today a number of forecasting "services" sell predictions of future cyclical movements on a commercial basis. But it still remains true that, although we know a good deal about business cycles after they have terminated their course, our knowledge of their origins and causes is still rudimentary.

Perhaps the most definite result of the study of business cycles is an appreciation of the necessity of distinguishing carefully between types of economic movements. Speculative manias such as the South Sea Bubble, the Florida land boom and the recent inflated prices of common stocks, appear irregularly at long intervals, and must be differentiated on the one hand from sporadic economic disturbances such as those due to great wars, and on the other hand from commercial *crises* (and the financial *panics* which usually accompanied crises in this country before the federal reserve banking system was introduced). Crises and panics in turn must be

distinguished from *business cycles* which recur at shorter intervals averaging (since 1885) a little less than 40 months in duration. Business cycles are distinguished from fluctuations occurring during the intervals between crises " by the fact that each cycle includes one wave of rising and falling, or falling and rising activity, whereas the intervals between ' crises ' often include two and sometimes include three such waves." [1]

In statistical measurements of economic movements, it is necessary first to distinguish the *secular trend* or long-time movement which marks such phenomena as gold production or canal traffic.

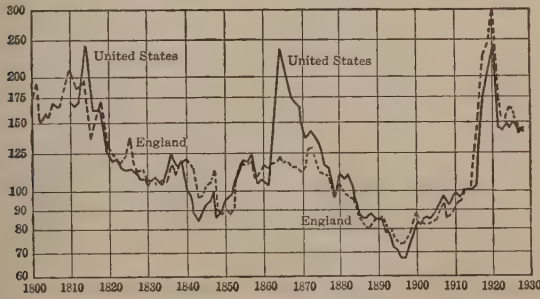

FIG. 1. — COMMODITY PRICES IN THE UNITED STATES, 1810–1921, AND ENGLAND, 1800–1921 [2]
(Prices in 1914 = 100)

This long-time movement, when dependent directly on population or similar factors, is often referred to as the " growth factor." At the other extreme are the well known *seasonal variations*, which recur annually. In the case of many economic movements both the secular trend and the seasonal variations have to be eliminated by

[1] Wesley C. Mitchell, *Business Cycles: The Problem and Its Setting* (National Bureau of Economic Research, New York, 1927), p. 468.

[2] Original diagram (to 1921) from Harvard Economic Service, *Weekly Letter*, June 10, 1922, brought down to 1928 through the courtesy of C. J. Bullock, President, Harvard Economic Society, Inc. The other diagrams in this chapter are also reproduced from the publications of the Harvard Committee on Economic Research. In the diagram above the vertical scale is logarithmic, so that equal vertical distances represent equal *proportional* or percentage degrees of change.

appropriate statistical treatment, in order to bring out and measure the cyclical movement proper.

Different Types of Price Movements. — The accompanying chart (Figure 1), based upon index numbers of wholesale prices, indicates, in the first place, that the forces which, in the long run, control the trend of prices, are world-wide rather than national in scope. Except during the greenback period the general course of prices in the United States has been strikingly like what it has been in England. In the second place an inspection of the chart will suggest that during the period it covers, at least three different types of general price movements have been at work.

1. At certain periods the movement of prices reflects the results of *inflation*. Such movements are noticeable (1) in the period of the Napoleonic Wars and the War of 1812; (2) in the greenback period; (3) during the World War and the years immediately following.

2. Certain sustained movements or *secular trends* are clearly marked. (1) From the peak they reached in 1814 prices declined down to the middle of the nineteenth century. During this period the production of gold and silver was stationary, or even diminishing, and failed to keep pace with the volume of trade. (2) In the middle of the century the flood of new gold from the mines of California and Australia turned the trend of prices upward. (3) From 1873 to 1896 the trend was downward. The effects of the augmented production of gold had spent themselves, and, in fact, the annual output of the mines was less than between 1850 and 1873.[3] Furthermore, during this period silver went out of use as a monetary standard in a number of important countries, so that there was an increased monetary demand for gold. Finally, the volume of the world's production and trade continued to increase. (4) The upward movement from 1897 to 1914 came, as we have already seen, from the development of the South African mines and from the use of new and more economical methods of mining and of reducing the ores. The one most important factor determining the secular trend of prices, it will be observed, is the relative rate of the increase of the world's supply

[3] See Table XVI on p. 305.

of standard monetary metal as compared with the increase of the volume of trade that has to be carried on by using money. Another factor, persisting through all these different periods, has been the growth of banking. Without the increased use of bank credit the general level of prices today would be far lower than it is.

3. Neither the upward or downward trends of prices are smooth and steady. The curves have a distinct and fairly regular wave-like movement. These shorter undulations represent *business cycles*. Some of these cyclical movements have begun and ended at approximately the same times in England and the United States.

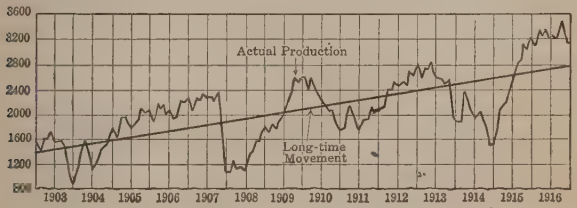

FIG. 2. — PIG-IRON PRODUCTION, BY MONTHS: 1903–1916
(In thousands of tons)

In other instances, however, the cycles have been distinctly national rather than international in character.

Though the movement of wholesale prices is a good index of the movement of the business cycle, the cycle is in itself much more than a movement of prices. It is characterized by wide fluctuations in production, trade, speculation, interest rates, profits, wages, employment, and other economic activities. Note, for example, the cyclical variations in the production of pig iron (Figure 2). The demand for pig iron is in itself a very good index of the condition of industry. An increased output of pig iron means an increased output of railway rails, of structural steel, of factory buildings, of machines, of tools, and of vehicles. The output of other mineral products, including coal, also oscillates with the business cycle, although not generally with the high degree of regularity shown by the production of pig iron. The total output of consumption goods going into the hands of final consumers necessarily follows the

changes in the production of basic materials. Or perhaps it is better to say that changes in the production of basic materials are adjusted, even though inaccurately and inadequately, to a changing market for consumption goods.

The money market also is subject to cyclical variations. Figure 3 shows some characteristic fluctuations in the interest rate on commercial paper. The prices at which investment bonds sell follow very closely (although inversely) the fluctuations in the rate of interest which banks charge on short-time loans. A fairly safe bond yielding 5 per cent a year will sell for more when the market rate of interest is 4 per cent than when it is 6 per cent. The prices

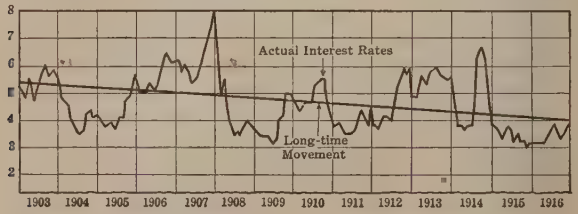

FIG. 3. — INTEREST RATES ON 60–90 DAY COMMERCIAL PAPER: 1903–1916

of shares of corporation stock, however, vary with the fluctuations of business profits rather than of interest rates. The fluctuations of profits play a very important part in the business cycle.

The list of things that fluctuate in the business cycle and whose fluctuations can be measured and expressed in statistical form could be greatly extended. In fact it would be difficult to find any important objective measurable economic phenomena which do not exhibit these cyclical fluctuations in greater or less degree. All of these different variables, however, are related in one way or another to the general condition of business activity. The various successive stages through which business passes in a typical cycle may conveniently be marked off as follows: (1) *recovery* (from a period of depression), (2) *prosperity*, (3) *recession*, (4) *depression*.

Older Theories of Crises. — Long before the cyclical character of the movement of business activity had been noted, *crises* had

attracted attention, as we have seen. Crises generally come as sharp interruptions of periods of business prosperity, when credit has been relatively abundant, prices and profits relatively high, markets good, and employment plentiful. They are of all degrees of severity, but are generally characterized by a scarcity of bank credit, sluggish markets, a sudden drop in prices, bankruptcies, a subsequent period of business depression, lack of employment for wage earners, and kindred symptoms.

The earliest explanations of crises attributed them to psychological factors. They were thought of as inevitable reactions to ebullitions of contagious speculative "mania," such as the "tulip mania" of 1636 in Holland, and the South Sea and Mississippi "bubbles" of 1720 in England and France. Even today there are many who turn to psychology for an explanation of crises and, in fact, of the whole business cycle. Thus a crisis is often attributed to a "loss of business confidence," following, perhaps, upon a period of "overconfidence." The only thing necessary at any time, then, to move business out of the doldrums would be a "restoration of confidence." There is no denying that psychology has much to do with the business cycle. An undue degree of optimism may lead to an overdoing of business expansion, and thus perhaps bring about its ultimate wrecking. Pessimism, expressed in timidity or undue caution, may deepen or prolong the depression following upon a crisis. But why should there be this regular alternation of optimism and pessimism in business? Most students are agreed that, behind men's opinions respecting the state of business, economic forces of a quasi-mechanical rather than a psychological order are at work.

Another popular theory of crises attributes them to *overproduction*. Most of the older economists dismissed this theory curtly by answering that the supply of one good necessarily constitutes a demand for other goods; that value or price is a mere ratio of exchange; and that in consequence *general overproduction* is impossible. To this argument a French economist, M. Albert Aftalion, replied that if the older economists were right, the prices which increased in times of depression would counterbalance those which decreased and the general index number of prices would remain constant, whereas in fact it falls. He also pointed out that those

who maintain that there can be no general overproduction almost always forget their thesis when investigating practical questions, and act as if overproduction were a reality. Dismissing mere verbal niceties, what is meant by overproduction is widespread maladjustment or badly balanced production; and these periods of maladjustment or, more precisely speaking, badly balanced production occur frequently. The problem is one of securing proportionality in production; a problem easy enough to state, though its solution is one of the most difficult tasks of our time. Moreover, it must be remembered that goods are not exchanged for other goods; they are sold for money. Hence it is entirely possible that the aggregate industrial output may be too large for consumers to purchase at prices profitable to the producers. Practically interpreted, there is much truth in the overproduction explanation. But it is not a complete explanation; we must go on to inquire why and how overproduction recurs from time to time.

The *socialists*, from Robert Owen (1815) down to Karl Marx and his followers, have given a characteristic twist to the overproduction theory of crises. Production under machine methods, they hold, tends always to increase faster than the consuming power of the great mass of the people, for most consumers are wage-earners whose incomes, according to socialistic doctrine, are determined, not by the value of what they produce, but by the minimum upon which they can live. Capitalistic methods of production thus yield a *surplus product*, and at any given time an even larger surplus product is always possible. The surplus product accumulates in the market and leads periodically to crises. The demand for luxuries on the part of the "capitalist employers" affords an outlet for a part, but only a small part of the surplus product. The employers want profits and power even more than they want luxuries. Crises, in the opinion of the socialists, are not the only ills for which the surplus product is responsible. Endeavors to find an outlet for it, they hold, lead to economic rivalries among nations, to the exploiting of undeveloped or backward countries, to colonial expansion, — in short to "economic imperialism" and to wars.

Despite the absurdities of the notions respecting prices and wages upon which it rests, the socialistic theory of crises, like others

of the older theories, contains a germ of truth. In periods of advancing prices and profits, wages, in fact, lag behind, and, beyond much doubt, this fact has its significance in the explanation of the economic cycle. But the socialists are clearly wrong in holding that there is a continuous and irresistible tendency to overproduce, interrupted and halted from time to time by crises. Business men gauge their productive activities, not by the maximum possibilities of modern machine methods, but according to their estimates of the market for their goods. If they overproduce, or if the productive capacity of their plants becomes too large, it is because their estimates are wrong, not because production or productive capacity grows spontaneously or of its own accord. To explain a crisis, or the business cycle of which a crisis is a part, we must explain why business men in general prove, from time to time, to be mistaken.

Cycles and the Weather. — Business cycles vary in length. The range of variation, however, is not so great but that it suggests the possible presence of some definite periodic element. This, in turn, has suggested to various observers that one or another of the periodic forces of nature may be at work. In various phenomena, such as the seasons, the tides, and different types of vibratory motion, nature displays a rhythmic periodicity. On the assumption that the business cycle has a fairly definite normal period — an assumption not yet verified, and, on the whole, doubtful — it would by no means be unreasonable to look to external natural forces for its controlling causes.

The first important suggestion of this sort came from the brilliant English economist, W. S. Jevons, whose "sunspot theory" of crises was a courageous if unfruitful attempt to reach a scientific solution of an important problem. The variations in the proportion of the sun's surface covered by spots have long been thought to have some connection with meteorological phenomena. Jevons thought that the average interval between maximum sunspot areas (about eleven years) coincided with the average interval between important crises in England. The connection between sunspots and crises, he thought, was through the effect of rainfall upon the crops (especially in tropical regions) and the influence of the crops upon the demand for British exports and hence upon the

prosperity of British industry. In various ways Jevons's thesis has been found wanting. Since 1840, for example, the average interval between the crises that have occurred in England has been no more than eight or nine years, while before 1840 the interval was exceedingly irregular. And an "average interval" of whatever length, it should be observed, does not necessarily indicate a recurring "period."

But the search for some joint periodic variation of business conditions and the weather continues, different findings having been announced by Professor H. S. Jevons (India), Sir William H. Beveridge (England), and Professor H. L. Moore (United States). There is little agreement among these different investigators with respect to the length of the cycle. Nor do meteorologists agree with respect to weather cycles, and it is by no means definitely established that periodic weather cycles occur. For the present, at least, we must regard as not proven the thesis that the business cycle is a reflection of a climatic cycle.

It would be absurd to conclude, however, that the weather and the crops have no effect on the condition of business. Farmers often regard a large (total) crop as a misfortune. The demand for agricultural products is so inelastic that a large crop sometimes sells for less in the aggregate than a small one. From the farmer's point of view a "bumper crop" may mean overproduction. Nevertheless good crops augment and poor crops diminish the prosperity of the general industrial and business activities of a country. When crops are large foods and raw materials cost less. Consumers can spend more money for other things. Poor crops diminish the earnings of the railways and, in various ways, interfere with the smooth working of the existing mechanism of business and industry. In the United States poor crops diminish agricultural exports and may thus make it necessary to take gold from bank reserves to ship to other countries in payment for imports. Thus when business conditions are already strained and the available supply of credit is nearly exhausted, a crop failure may help to precipitate a crisis at a time when large crops might have enabled business men to enjoy a further period — another year perhaps — of prosperity. Considerations like these, it is probable, explain

the observed fact that many of the more severe crises the United States has experienced have accompanied poor crops. But, on the other hand, not all crop failures have been attended by crises. It may be inferred, therefore, that if it comes when other conditions are ripe, a crop failure may help to *time* a crisis. Cyclical fluctuations in agriculture itself have not yet been the object of many detailed investigations. Farming has, hitherto, been "in the background of the picture." [4] It is possible, however, that the neglected study of land economics may in the future shed some light on the phenomena connected with business prosperity and depression.

Banking and the Business Cycle. — That the way the mechanism of banking operates has much to do with the cyclical oscillations of business is scarcely open to doubt. Banks furnish an elastic supply of purchasing power, swelling in volume as business transactions increase and then — for the supply is elastic only up to a certain point — often enforcing a sudden halt to further expansion.

The period of depression following a crisis is a period of liquidation. Business firms reduce their debts. The loans and the deposits of the banks decrease, and thus their reserve ratios increase. Furthermore, with low prices and a sluggish movement of trade, money that had been in hand-to-hand circulation collects in the banks. Low prices stimulate exports and discourage imports, so that a favorable turn of the balance of trade sometimes brings in gold from other countries. In such ways the reserve ratios of the banks are still further augmented. Low discount rates result, and make business undertakings more attractive. Bonds sell at good prices, so that the time is propitious for building new plants and for other undertakings requiring large permanent investments of capital.

The money borrowed by business men is paid out in the form of the expenses of production. It increases the money incomes of consumers, and comes back in the form of a demand for goods. Sales increase, and the low prices, which of themselves had had something to do with the revival of buying, are slowly advanced.

[4] Wesley C. Mitchell, *op. cit.*, p. 87.

The increasing volume of trade and the advancing price level both demand and support further advances by the banks. Consumers' incomes continue to grow, their purchases continue to increase, prices and the volume of trade continue to rise. Thus the loans and discounts of the banks, together with their deposits, tend to increase in a cumulative way.

But the growth of deposits diminishes reserve ratios; money is drawn out of reserves into hand-to-hand circulation; interest and discount rates rise; finally the higher level of prices, by attracting imports and impeding exports, may lead to an unfavorable turn of the balance of trade, so that gold may be exported. The diminishing bank reserves fix limits beyond which the expansion of credit, and with it the expansion of business, cannot go. Even if no other unfavorable factor — such as a failure of the crops — intervenes, the tide of prosperity encounters an obstacle it cannot surmount. In fact, reserves are likely to continue to decline for a while after the peak of expansion has been reached. This in itself would normally force a *contraction* of bank credit, with results disastrous to business plans and projects.

Important as the cyclical oscillations of bank credit are, however, they do not suffice to explain the business cycle. Cheap supplies of credit help to give the stimulus that turns business upward, enabling it to pass from depression into the period of recovery. Exhausted supplies of credit, moreover, may bring prosperity to an end. But for the most part credit plays a passive rôle. Its expansion follows rather than precedes the expansion of business. And even if the supply of credit were unlimited, business could not continue to expand indefinitely. The world's recent experience with irredeemable paper money has proved once more that no amount of inflation will carry business and industry up with it beyond a certain point. It operates like a drug, of which increasing doses are required to keep vitality from sagging below its normal level. Inflation may delay but cannot prevent the inevitable collapse.

The Cyclical Movement of Profits, Costs, and Output. — The prosperity of business firms is measured by the profits they make. Profits depend upon the margin between the expenses of

producing goods and the prices at which they can be sold. The way in which prices and the expenses of production move in the business cycle, with reference to one another, is therefore a matter of prime significance. During the part of the business cycle characterized by rising prices, profits (in general) at first rise and then fall.

Profits for a time increase more rapidly than prices, because for a time the expense of producing goods does not increase so rapidly as prices. Some expenses are, for the time being, fixed, — such as rents, interest on outstanding bonds, and various other classes of overhead costs. So long as wage-earners are not fully employed wages will increase more slowly than prices. The prices of raw materials, if the available supplies are large, may increase less than the prices of finished goods. And so long as the unemployed funds of the banks are large, interest rates will remain relatively low. Just as long as profits continue to rise they will induce a continuing expansion of business undertakings, accompanied by larger borrowings from the banks.

But profits cannot increase indefinitely. With labor fully employed higher wages have to be paid. And with full employment, there is common testimony, labor loses in energy and efficiency. Moreover, many establishments, as their outputs approach the limits set by the capacities of their plants, find that their increased outputs are produced uneconomically. Congested factories, overtime and night work, crowded railways, — these and other factors lead to increased expenses per unit of output, even in industries characterized in the long run by decreasing expenses. Moreover, interest rates increase as bank loans expand, — a factor which of itself diminishes the profits that can be made by employing borrowed money in business. In particular, the fall in the prices of bonds, accompanying the rise of interest rates, puts difficulties in the way of undertaking extensive additions to the existing equipment of industry.

Finally, it must be observed, the supply of raw materials is elastic only within limits. In fact, the world supply of some important materials — wool, hides, and rubber are examples — is for the time being fixed and inelastic. The output of some products of the

farms and of the mines cannot be increased rapidly enough to keep pace with the expansion of business. The competition of industries for the limited supply of raw materials leads to rapid advances in their prices, and to corresponding increases in the prices of production goods. The higher prices paid for raw materials, like the higher wages paid to labor and the higher interest rates paid for loans, do not, after a certain point has been reached, elicit a correspondingly larger supply. They come to be merely the means by which a relatively inelastic supply is distributed among competing industrial establishments.

During the period of recovery and the early stages of the period of prosperity, business expansion is accompanied by a rapid increase of the *physical product* of industry (*i.e.* product measured in tons, yards, etc.) as well as of prices. But in the later stages of the period of prosperity, for reasons we have just reviewed, prices are likely to continue to rise, and even more rapidly than before, but the further increase of the physical product is likely to be small. The general condition of business thus becomes unhealthy. Advances in costs follow closely at the heels of advances of prices. Business men can count on further profits only if prices *continue* to advance so as to keep ahead of costs. Their activities tend to take more largely the character of speculative operations in a rising market. Conditions are then ripe for a crisis, for anything that puts a stop to the further advance of prices is likely to precipitate a collapse.

Business Cycles, Saving, and Underconsumption. — Many writers find the fundamental cause of business cycles in underconsumption or the failure of consumption to keep pace with production. One exposition of this theory starts with the self-evident axiom that a business, in order to be prosperous must get back from its customers more than it pays out in wages, interest, dividends, and other expenditures: it must cover its outlay and have some profit in addition. But these outlays constitute consumers' income, and the amount of this income is obviously less than the value at which producers must sell their goods in order to make a profit. Thus, by contrasting purchasing power with products to be sold we start with an initial deficit of consumers' purchasing

power. This initial deficit is apparently increased or aggravated by the consumers' savings and by what the producers plow back into the business. Such considerations have led some writers to descant upon the " dilemma of thrift " and others upon " the fallacy of saving."

These savings, however, are not hoarded. They are spent chiefly in business extensions and in financing new enterprise. In large part they are expended for fixed plant and equipment which are not sold at all, and from which their owners do not expect immediate returns. Money disbursed in constructing such plant or in making such equipment increases the consumers' purchasing power without adding an equivalent supply of goods intended to be sold at once. To this extent the consumers' purchasing power outruns the volume and value of salable goods; and if business expansion goes on rapidly enough consumers may have even more purchasing power than is required to buy (at prices profitable to producers) consumption goods and other products ready for immediate sale. In such a case prosperity results. If the process of capital expansion lags, or, in other words, if rigid restrictions are placed on expenditure for the construction of plant and capital goods on which no immediate returns are expected, there is a deficiency of consumers' purchasing power and trade languishes. Then we have depression.

Most of the proponents of this theory mention but do not emphasize the phases of expansion and prosperity. They stress the " leakage " in consumers' purchasing power, " underconsumption," " oversaving," the " dilemma of thrift," but forget that there are as many booms as there are crises, as many recoveries as recessions. The statistical measurements of the nineteen American business cycles which Professor Wesley C. Mitchell distinguishes during the years 1855–1927 indicate that the phase of expansion lasts longer than the phase of recession; 25.4 months and 20.7 months respectively. If the evil or problem involved is essentially monetary, as has been asserted, it apparently lies in inflation rather than deflation or inadequate purchasing power. The theory that underconsumption is the main cause of business crises is enlightening and stimulating. It emphasizes the important truths that balance or equilibrium between production and consumption is vital, *that*

business is kept on an even keel largely by industrial expansion, and that there must be adequate and wisely controlled sources of new credit in order to finance industrial expansion. But there is both error and danger in the suggestion that the evil is monetary in its origin and can be corrected only by monetary and credit devices. Such a point of view leads to proposals to stimulate purchasing power by artificial methods, particularly through governmental action, which in the past have brought repeated disaster. The maxim that "the consumer must be financed" is true enough in the sense that high wages are socially profitable; that a high standard of living makes for business prosperity, and in other senses. It is an old and pernicious error, however, when it leads governments to depend on paper money or to distribute bounties to favored classes.

Other Aspects of the Business Cycle. — The business cycle is attended with *maladjustments* in industry and in the general economic life of the nation. During its course different sorts of economic phenomena do not move upward and downward together, in even procession. Some things lag behind others. These lags and the maladjustments they bring are among the worst features of the cycle. They show themselves, for example, in changes in the proportions in which incomes are distributed. Wages, salaries, and incomes from fixed investments lose in net purchasing power during the period in which prices are rising. The increase of business profits, on the other hand, is such that they come to constitute a greatly increased proportion of the country's total income. A very large share of this profit is "put back into the business." The result is a tendency toward overinvestment in prosperous concerns, showing itself in overexpansion and overproduction, — overproduction, at any rate, of factories, equipment, and other means of production.

To a very considerable extent the increased earning capacity of business undertakings is "capitalized" in the form of the increased money values imputed to plants, good-will, franchises, etc. Established businesses, corporation shares, mines, farms, etc., are sold at high prices. Generally the purchase money is, in considerable part, borrowed, and the interest on such loans becomes a fixed charge on the income of the newly acquired prop-

erty. When prices and profits drop the new holders find these fixed charges a heavy and often an impossible burden. Such, in times past, was often the experience of corporations that had bought or " reorganized " American railways. Such was, in 1921 and 1922, the experience of farmers who had bought land at the high prices prevailing after the war.

For wage earners business cycles have proved not to be unmixed evils. Though wages fall in a period of depression, the drop is rarely or never as great as the rise during the preceding period of prosperity. Wages, moreover, rarely fall so far as prices, so that the wage earner usually emerges from the business cycle with some net gain in the purchasing power of his money wages.

But wage earners pay a heavy price, in unemployment, for these gains. Cyclical unemployment is vastly more significant than the seasonal unemployment to which certain trades are subject. The magnitude of the problem of cyclical unemployment is suggested by the estimates reproduced in the accompanying table, comparing conditions at the peak of prosperity in 1920 and in the midst of depression a year later.

TABLE XX

CYCLICAL DECREASE OF EMPLOYMENT IN THE UNITED STATES: 1920–1921 [5]

INDUSTRY	THOUSANDS OF EMPLOYEES IN THIRD QUARTER OF THE YEAR		PER CENT DECREASE
	1920	1921	
Agriculture	2,300	2,204	4.2
Mining	1,120	944	15.7
Building	1,600	1,415	11.6
Transport	3,420	2,865	16.2
Manufacturing	11,370	8,460	25.6

Seasonal unemployment does not affect these figures, for in both cases they relate to the same months of the year. Facts like these

[5] From estimates by W. I. King, *Employment, Hours, and Earnings in Prosperity and Depression* (Publications of the National Bureau of Economic Research, New York, 1923) No. 5, p. 30.

speak for themselves. They show that the business cycle is an exceedingly serious malady of modern industrial life.

Is the Business Cycle a Myth? — One of the leading authorities in this general field, Professor Irving Fisher, concludes that the business cycle is a myth. By comparing or correlating changes in wholesale prices with changes in the volume of trade occurring several months later, he finds that the correspondence or correlation between them is so close that changes in the wholesale price level may be regarded not only as an anticipation but also as the controlling cause of changes in the volume of trade or business. Price changes are, he considers, unquestionably irregular or non-cyclical. Consequently, the movement of business which so closely corresponds with price changes is similarly non-cyclical. He concludes accordingly that the business cycle is simply a fluctuation about its own mean or average.

Of course, if by the business cycle is meant merely the statistical fact that business does *fluctuate* above and below its average trend, there is no denying the existence of a cycle — and not only in business but in any statistical series whatsoever! If we draw any smooth curve to represent the general trend of population, the actual population figures must necessarily rise sometimes above and sometimes below this mean trend line. Otherwise the series would be as remarkable as the great orator who, his enthusiastic friend claimed, never fell below his average and often rose above it! In the same way weather conditions necessarily fluctuate about their own means; so does the luck at Monte Carlo. Must we then speak of "the population cycle," "the weather cycle" and the "Monte Carlo cycle"? [6]

To this, Professor Wesley C. Mitchell, probably the foremost authority on business cycles, replies that many economic phenomena such as pig iron production, unemployment percentages, bank clearings, building permits, and so on, fluctuate or move with much less irregularity than for instance, the weather or the production of potatoes; that while these fluctuations are not highly irregular they are far from haphazard; and that

They are found to have tolerably regular relations with one another in respect to time, duration, and amplitude of movement — relations many of which have been suggested by economic theory. Finally, in timing and direction these

[6] Irving Fisher, "The Unstable Dollar and the So-Called Business Cycle," *Journal of the American Statistical Association* (June, 1925), Vol. XX, p. 191.

intercorrelated fluctuations agree closely with the evidence given by business annals concerning a long-continued and wide-spread recurrence of prosperity, recession, depression, and revival.[7]

The difference between these two authorities is largely one of words. If a cycle must show rhythm or periodicity Professor Fisher appears to be right. If, on the other hand, our interest is in *recurrence*, apparently inevitable within short time intervals, Professor Mitchell appears to be right. In either event there are few economic questions of greater consequence than the investigation of the more important causes of the recurrence of prosperity and depression. We must, obviously, go beyond price changes when seeking the explanation. What are the most important causes of the recurrent movements in the price level? Such *movements* originate from at least four great sources: the credit system; producers; consumers; and from nature or other non-economic sources. From all these sources it is highly probable that impulses arise which if not rhythmic or periodic are at least recurrent. We are vitally concerned with these impulses or causes and the means of controlling them in the interest of human welfare. Whether the net result of these dynamic impulses is or is not periodic is a question which may be left to the statisticians.

Remedies. — The business cycle, as we have seen, rests in part upon mistaken estimates. The general increase of knowledge respecting its characteristics will, therefore, help to diminish its fluctuations. Such knowledge will lead to greater caution in business operations in periods of prosperity and to greater courage in periods of depression, with the net effect of lessening the contrast between the two periods.

Methods of *forecasting* the probable movement of business conditions have already become important and promise to acquire yet greater importance. Professor W. M. Persons has devised elaborate methods of analyzing statistics of the movement of various economic phenomena in such a way as to separate purely cyclical movements from the shorter seasonal variations and the longer secular trends. He has found that in past business cycles the relations of the movements of interest rates, of stock-exchange

[7] Wesley C. Mitchell, *op. cit.*, p. 466.

speculation, and of the general volume of business activity have followed a fairly well defined course, so that at any given time the existing status of these different factors, together with their recent movements, affords a basis [8] for forecasting the probable condition of business in the immediate future. With the further perfecting and increasing use of such methods, the major oscillations of the business cycle are likely to be anticipated and discounted. Paradoxically, anticipating such fluctuations will tend to diminish them.

Individual firms and, in some measure, trade associations in different industries, are giving increased attention to the scientific analysis of the particular conditions that particularly affect their own industries. The federal government, also, has made a praiseworthy beginning in the work of collecting, publishing, and supplying to bankers and business men some of the fundamental current economic facts upon which intelligent business planning must be based.[9]

After the depression of 1921 and until late in November, 1929, business in the United States moved on a remarkably even keel. Output and income increased both in the aggregate and per worker, but cyclical fluctuations were unusually moderate. Some observers asserted that the business cycle had been "ironed out" in this country. There can be no question that the lessons learned by bankers and business men in the depression of 1921 and increasing knowledge of the business cycle itself were largely responsible for the wholesome moderation in the pace of American business during the period 1922–1929. To anticipate the cycle is in large measure to neutralize it.

It is urged by many that the government should take further steps to control the business cycle and to diminish its evils. Some of the measures proposed, like the suggested Board to adjust federal finances, and to regulate taxes, expenditures, loans and bank policy, so as to neutralize cyclical fluctuations, are obviously too ambitious to be seriously considered. A suggestion of a different

[8] Utilized by the Harvard Committee on Economic Research in its publications.

[9] See especially the monthly *Survey of Current Business*, published by the Department of Commerce, and the *Federal Reserve Bulletin*, published monthly by the Federal Reserve Board.

type is that in planning public works, the federal government as well as the states and cities, should aim to time their expenditures in such a way as to avoid competing with private business undertakings for labor and raw materials when business is prosperous, reserving their own demands for periods of depressions.[10] The political difficulties in the way are large, but the proposal is economically sound. Even if it could be generally acted upon, however, it would, at the most, merely temper somewhat the extremes of the oscillations of the cycle.

A more thorough-going proposal is to the effect that the control of the volume of bank credit be used as the means of controlling the fluctuations of the business cycle. Even if not the fundamental cause, the expansion of bank credit is a necessary *condition* of the overexpansion of business. Something could be accomplished, undoubtedly, by efforts to induce individual banks to determine their policies in the light of the probable effects of credit expansion upon the country as a whole as well as by the apparent soundness of the immediate transactions their customers ask them to finance. It has been suggested, for example, that the banks insist that in periods of rising prices their customers increase the ratio of their current (*i.e.* quickly realizable) assets to their current liabilities. In general, a wider understanding of the facts of the business cycle would undoubtedly have a salutary effect upon the operations of banks, as upon those of their customers.

But it is proposed, further, that the government or the federal reserve banks should regulate the supply of credit. That supply, it is argued, is overelastic, so that artificial means of controlling it are called for. Some would go so far as to have the supply of money and credit rigidly fixed within limits that would allow only for seasonal variations and normal annual growth in the volume of trade. Others would have the federal reserve banks govern their policies with reference to the movements of an index number of prices. Rising prices would be the signal for an advance of rediscount rates, coupled, perhaps, with the use of other methods of

[10] Cf. O. T. Mallery, "Planning Public Works," in *Business Cycles and Unemployment.* President's Conference on Unemployment (McGraw-Hill Book Co., New York, 1923), Chap. XIV.

restricting loans. Falling prices would bring reductions in rediscount rates and easier conditions for borrowing. In this way, it is held, the price level would be stabilized and the business cycle done away with.

The questions involved are difficult. We lack sufficient experience to enable us to foretell with any certainty just how effective such methods of control would prove to be. We know, however, that the old reserve system established by the national banking law worked in such a way as to increase the severity, and perhaps the frequency, of the alternations of prosperity and depression. Any surplus bank reserves were quickly absorbed in an expansion of speculation and of trade, leaving no reservoirs of credit to cushion the shock of the inevitable collapse. European central banks — notably the Bank of England — have often raised their discount rates in periods of rapidly advancing prices, and have interposed no obstacles, aside from high rates, to borrowing in the midst of a crisis. But their discount policies have been guided with a view to the preservation of their own gold reserves, threatened by the adverse turn of the foreign exchanges that often comes toward the end of a period of rapidly rising prices, rather than by the planned purpose of controlling or diminishing the fluctuations of the business cycle.

Whether the federal reserve banks should consciously attempt to control prices or to moderate the business cycle, and what is the extent of their actual and legal power in this direction, are highly doubtful questions. Politically speaking, it is probable that the banks cannot safely attempt to control prices. During 1928 and 1929 rediscount rates were raised and other policies adopted with the express purpose of restraining speculation in securities. The "bull market" was repeatedly checked and restrained by such action. But this same bull market showed at times an amazing power to move directly in the face of the federal reserve authorities; and speculators as well as dealers in securities found lenders other than the banks capable of advancing credit with which to buy securities in huge volume. Both the extent of the federal reserve bank's power to check speculation in securities and the wisdom with which it has exercised this power, are now subjects

of keen debate, with the balance of the argument inclining, as we see it, to the view that the banks have an enormous power of control and that the bull markets in question called for the exercise of this control at least as early and as vigorously as it was, in fact, exerted. But any conclusion reached at this time must be tentative. The question is almost as much political as economic and it is still at the stage in which no scientific judgment can safely be rendered.

The revolutionary character of the changes that would be brought about if the business cycle were eliminated should not be underestimated. Without the business cycle economic change would be distinctly slower; for some of the incentives to daring ventures and experiments in new fields of enterprise would be gone. There would be smaller chances of large gains, offset by smaller chances of large losses. Speculation would play a lesser rôle in business success, and genuine economies of organization and operation a larger rôle. The distribution of wealth would, there is reason to believe, tend to become somewhat more equal. The average level of well-being might be no higher but would be stabler and more truly representative.

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CHAPTER XVIII

INTERNATIONAL TRADE

Foreign Exchange. — In international as in domestic trade, only a small amount of money is used, compared to the enormous money values of the goods exchanged. Purchase is set against sale, debt canceled by credit, and money is employed only for the occasional settlement of balances. As illustrative of the processes of foreign exchange, let us take our trade with England. Ordinarily, an American exporter who has sold goods to England draws an order — a *bill of exchange* — on the English debtor, directing him to pay the claim at some specified time and place in London. American importers of British goods, on the other hand, commonly pay their foreign balances by buying bills of exchange or drafts on London, and sending them to their English creditors. In this way American debts and credits are balanced in London without transferring any money at all, except occasionally to settle the balance of indebtedness.

Bills of exchange drawn on a commercial debtor are usually accompanied by bills of lading, insurance certificates, and all the documents necessary to give the purchaser of the bill full title to the goods until the bill is accepted or paid. They are accordingly referred to as " documentary bills " or " commercial bills," to distinguish them from " bankers' bills " and other instruments of international credit. It is important, also, to note the difference between " sight bills " and " long bills," the former calling for payment upon presentation, the latter more usually for immediate " acceptance " by the drawee and payment after thirty, sixty, or ninety days. The price of long bills is approximately determined by the price of sight bills or, more accurately, by the rate for " cable transfers," and the discount rate in the market in which the bills are payable, providing that in that market — as is generally the

case — discount rates are lower and hence the price of long bills higher than in the market in which the bills are drawn.

The acceptance of a bill converts it into a definite promise to pay on the part of the importer upon whom it is drawn. If the importing house has an exceptionally high standing, its own acceptance will suffice to make the bill easily marketable. But many importers arrange to have bills arising out of their transactions accepted by some bank, protecting the bank by a deposit of collateral and paying it a commission for its services. The accepting bank is not called upon to advance any funds; it merely lends its name, and looks to the importer to meet the bill when it becomes due.

We may now enlarge our simplified illustration to something like life size. Documentary bills drawn by exporters all over the country are sold by the drawers to bankers, usually (directly or indirectly) to New York bankers, who may be called "wholesalers of exchange." These documentary bills are sent by the New York banks to their foreign correspondents. The foreign bank collects the bill or secures its acceptance, turning over to the importer the documents he needs to enable him to get possession of his goods. When the bill is collected or accepted (in the latter case it may then be sold in the market at a price determined by the maturity of the bill and the prevailing rate of discount) the New York bank is credited with the proceeds. The balances thus built up abroad by the New York banks constitute the fund against which they draw their own bills. These are sold directly or through other banks — "retailers of exchange" — located in all parts of the country. Foreign exchange is sold in a great variety of forms — bankers' drafts, cable transfers, travelers' checks, travelers' letters of credit, postal money orders, and the like — descriptions of which may be found in the references given at the end of this chapter.

The illustrations used above, while typical of a large part of the foreign exchange of this country, fail to represent adequately the complexity which marks some of the interactions of international credit. An illustration of the more complex class is found in the "three-cornered" or "triangular exchange." Normally we import from, very much more than we export to, South America.

English exports to South America, on the other hand, are usually larger than South American exports to England. But the United States has generally exported more to England than she has imported from that country. A part of the debit balance arising from our South American trade is settled by the transmission of London drafts to our South American creditors, or by arranging that South American exporters, when shipping goods to this country, may collect payment by drawing their bills (in sterling) against London banks. By either method American balances in London are used in paying for imports from South America. Our rate of exchange with any particular foreign country is in this manner controlled not by our trade with that country, but by our dealings or general balance with the rest of the world.

An important question now arises. How is the price or rate of exchange determined? The factors controlling the price or rate of exchange are as numerous and as difficult to trace as the influences which affect the price of any economic good of world-wide purchase and sale. However, to facilitate discussion, we may classify them as: (1) the amounts of pure gold represented by the monetary units which are to be exchanged, (2) the cost of shipping gold, and (3) the balance of international payments.

The Par of Exchange and the Gold Points. — An English sovereign (the gold "pound sterling") contains as much fine gold as 4.866 American dollars, and when exactly this amount must be paid in New York for a draft or order for one pound payable in London, the price of sterling exchange is said to be *at par*. Fluctuations in the rate of exchange depend chiefly upon the balance of international payments, but it is plain that if the gold standard is in force in both countries, upper and lower limits to these variations are established by the actual cost of shipping gold. Suppose, for a moment, that it cost two cents to transport $4.866 worth of gold bullion between New York and London. Except under unusual circumstances, then, sterling exchange could not rise above $4.886, nor fall below $4.846. Such limits are frequently spoken of as the "gold points," "specie points," "shipping points," or "export and import points." Often they are defined in much too definite terms. The cost of shipping gold varies with the size of the

shipment, with freight, insurance, and interest rates, and in some degree with the steamer and the season of the year. Furthermore, gold is so important as the basis of bank credit in all parts of the world that sometimes a central bank puts a small premium on gold, thus virtually raising the gold-export points or lowering the gold-import points. The gold points, then, while in one sense very real, represent extreme limits and are in themselves variable.

The Balance of International Payments. — Within these extreme limits set by the cost of shipping gold, the rate of exchange varies according to the status of the balance of international payments, *i.e.* with the supply of, and demand for, bills of exchange. Suppose, for instance (neglecting other factors to be considered presently), that our imports of merchandise exactly equal our exports. The supply of bills on London would exactly meet the demand, leaving neither surplus nor deficit. Under such conditions, it is reasonable to infer, the price of sight exchange would be at par. Suppose, next, that our imports greatly exceed our exports. The demand for bills on London would greatly exceed the supply, and, if there were no limiting factors, the price of sterling exchange would rise very high. But, as we have seen, the gold points limit the range of fluctuation of exchange rates. The price of sterling bills could not rise above the gold-export point. When it reached that point our imports would be paid for partly by the supply of sterling exchange created by our exports and partly by actual shipments of gold.

At this point we must take account of the important fact that other things than exports and imports of merchandise enter into the supply of and demand for foreign bills of exchange. The " visible " balance of trade is only part — although an important part — of the total *balance of international payments*. In a large sense our total imports include all things for which we must pay other countries, while our aggregate exports may similarly be said to include all things for which they must pay us. Some idea of the varied nature of our " invisible " exports and imports and of the importance of credit transactions in the balance of payments is given in the Condensed Balance of Payments below, prepared by Dr. Ray Hall and published annually by the Department of Commerce. The column headed " Cash claims due from for-

TABLE XXI

Our Estimated Cash Dealings with Foreigners during 1928: A Condensed Balance of Payments

(In millions of dollars)

Classes of Transactions	Cash Claims Due:		Difference
	From Foreigners	To Foreigners	
Commodity Transactions			
Merchandise, silver, etc. (adjusted)	5,334	4,497	+ 837
Miscellaneous Invisible Transactions			
Freight (ocean, Great Lakes, and land transit)	143	227	− 84
Tourist expenditures, minus payments to American vessels and minus customs declarations of returning tourists, etc.	168	693	− 525
Interest on all private investments (long term and short term)	882	359	+ 523
War-debt receipts	210	—	+ 210
Government transactions (except war-debt receipts)	53	110	− 57
Immigrant remittances	28	217	− 189
Charitable and missionary contributions		52	− 52
Other items (insurance, motion-picture royalties, cable charges, patents, Canadian electric power, etc.)	196	129	+ 67
Total commodity and miscellaneous	7,014	6,284	+ 730
New Private Loans, Investments and Deposits			
Net increase in American long-term investments abroad (par value)	—	1,339	− 1,339
Bond discounts and underwriters' commissions	—	122	− 122
Net cash payments for above	—	1,217	− 1,217
Net increase in long-term foreign investments in the United States	481	—	+ 481
Reduction in net debt of American banks to foreigners	—	226	− 226
Total private capital	481	1,443	962 [a]
Other Balancing Items			
Gold shipped or earmarked (net)	272	—	+ 272
Discrepancy due to inaccurate figures	—	—	(40) [b]

[a] Net exports of long-term capital, plus or minus short-term capital.

[b] Total errors would be much larger, as errors tend to offset one another.

eigners" represents *exports* or *credits*. That entitled "Cash claims due to foreigners" represents *imports* or *debits*. It should be noted, however, that imports or receipts of gold appear in the first or debit column. Thus we lost or exported gold in the net amount of $272,000,000 in 1928, counting as an export "gold earmarked for foreign account."

In general (with the exception of gold) the credits in the first column represent transactions involving payments to us, and which thus create a supply of foreign balances on which bills of exchange may be drawn. The "debts" in the second column represent transactions involving payments by us, and which thus create a demand for bills of exchange and for other instruments by which foreign payments may be made. "Incidentally," says Dr. Hall in explanation, "if one entered all items gross (not net), the debit column would show, by items, how much dollar exchange was acquired during the year by foreigners, and the credit column would show how they used it."

Merchandise exports and related items ($5,334,000,000), it will be observed, exceeded merchandise imports and related items ($4,497,000,000), thus leaving an apparent "balance of trade" in our favor of $837,000,000. But this merchandise balance was reduced to $730,000,000 by the miscellaneous invisible transactions (in which the debits exceeded the credits); and the reduced balance of $730,000,000 was in turn more than wiped out by "new private loans" and other "private capital" debits amounting to $962,000,000. The true balance was "adverse," to the extent of $232,000,000 ($730,000,000 minus $962,000,000), represented by gold exports of $272,000,000 and various discrepancies amounting (net) to $40,000,000. Table XXI will repay careful examination. The interest payments of $882,000,000 to us as a creditor nation; our huge tourist expenditures equal to two and a half times the interest payments of foreign governments; the enormous increase in American long-time investments; the net increase of $481,000,000 in long-term foreign investments in the United States; and the large gold exports, are all items of significance aside from their part in maintaining that equilibrium which is the most striking characteristic of international trade and finance.

International Gold Movements and International Loans. — Figures such as we have just examined convey their own warning against attaching too much importance to the "visible" or apparent balance of trade, *i.e.* to the excess of exports or imports of merchandise. It is nevertheless true that between important countries, and in normal times, exports and imports of commodities are usually the most important items in the balance of payments, and — from year to year — the items subject to the largest variation. The "Ricardian theory of gold movements," as it is often named (although formulated by David Hume before Ricardo expounded it), remains, therefore, of fundamental importance. According to that theory, a "favorable balance of trade," *i.e.* an excess of merchandise exports over merchandise imports, must normally be offset by gold imports. But the increase of the country's supply of gold leads, in ways already discussed, to a general rise of prices and of the expenses of producing goods. Higher prices make the country's domestic markets more attractive to home producers as well as to foreign exporters, while the increased cost of producing goods makes it more difficult for the country's exports to be sold in foreign markets in competition with goods produced in other countries, — especially as some of those other countries have been losing gold by reason of unfavorable trade balances and are accordingly experiencing lower prices and lower production costs. Gold imports, in short, operate in such a way as to diminish exports and increase imports. This process continues, so the doctrine runs, until the favorable balance of trade has been succeeded by an unfavorable one, so that gold is exported and prices fall. Thus the balance of trade swings in pendulum-like fashion first in one direction and then in the other. No country, it follows, can permanently enjoy a favorable balance of trade. In the long run its exports and imports tend to be equal. Exports must pay for imports, and imports for exports. Gold movements act like a gyroscopic stabilizer, always tending to restore the balance when it gets too far out of equilibrium.

This doctrine is in general accordance with the known facts respecting the currents of international trade and the flow of gold from country to country in modern times, and it explains and illuminates

those facts. But by itself it is not altogether adequate. It needs to be supplemented by a consideration of other factors in the total balance of international payments, and especially by emphasis upon the important rôle played by international loans.

International borrowings fall into three fairly distinct classes. First, there are short-term borrowing operations which adjust and equalize the balance of international payments from month to month or from season to season. In discussing, on page 349, the sale of foreign exchange, American bankers were described as drawing against the credit balances they had built up abroad. But they may draw " finance bills " in *excess* of their foreign balances, and thus borrow abroad. Finance bills are often used to tide over the time before a plentiful supply of documentary bills is available. Thus they may be drawn in the summer in anticipation of the exports of cotton and wheat that will come a few months later. They may also be used to take advantage of low discount rates abroad, *e.g.* in London, by borrowing in London and lending the proceeds in New York.

In this second use, the finance bill is merely one of many types of credit instruments used to bring the loanable funds of the world to the markets where they will command the highest rates of interest. Such movements of loanable funds constitute the second of the three classes of international borrowings to which we have referred. In this class are to be included the *long-term* investments, which have come to be described as the " export of capital." Capital may be exported to another country by purchasing the securities of its government or its corporations, or by building railways, developing mines, establishing industries, and exporting materials for such purposes, — not in return for immediate payment, but because future profits are expected. For the time being exports of capital affect the balance of international payments in the same manner as *imports* of commodities.[1] But the annual payments of interest and profits and the ultimate repayments of principal to which exports of capital lead run in the other direction.

[1] Materials and supplies sent to another country, *e.g.* for railway building, figure in the balance of payments as commodity *exports*, but are offset by corresponding debits, representing the fact that no immediate payment is demanded of the country to which the supplies are sent.

The unfavorable balance of the merchandise trade of South American countries with Europe was offset, before the war, not only by an export surplus in their trade with the United States, but also by a flow of European investments to South America. England also for many years before the war had an unfavorable visible balance of trade. But the difference was made up, in her case, by the profits of her shipping and the excess of the annual payments of interests and profits made to her by other countries over the annual increase of her foreign investments.

Short-term advances also play an important part. The finance bill is merely one of a variety of instruments by which bankers in the one country borrow from those in another. Even more important, moreover, are the advances made by bankers to exporters and importers. If the bankers of different countries contributed to such advances in proportion to the importance of the foreign trade of their countries, there would be little or no effect upon the international balance of payments. But, in fact, the financing of foreign trade is mostly in the hands of the bankers of a few great countries, and notably England. The bills on London by which no small proportion of the world's trade is financed are usually sent promptly to London and held there until they mature. That is, they are discounted or purchased with funds supplied by the London money market, and such discounts or purchases are, in effect, advances to the traders engaged in international commerce. Furthermore, in normal times the London money market ordinarily holds a fairly large stock of bills, foreign and domestic, payable in *other* countries, so that in that way, also, England makes international short-term loans.

In the third class fall the international loans effected because of war. They follow the law of necessity rather than the law of the market. Their proceeds go to purchase foods, ships, munitions, and supplies. The huge debts created by the World War (including obligations to make reparation payments) distorted the world's balance of international indebtedness. These are private and commercial as well as governmental debts. Abnormal elements in the balance of international payments, they hamper international trade, and long stood in the way of the improvement of European currencies.

Discount Rates and the Balance of Payments. — The important part played by international loans makes it necessary to modify, or rather to supplement, the doctrine outlined above respecting the interrelations of gold movements, price levels, and the balance of international payments. Differences in interest and discount rates rather than in price levels lead to international borrowings. To say that investment securities move to markets where interest rates are relatively low, is equivalent, of course, to saying that, like commodities, they move to markets where they command relatively high prices. But, for various reasons, it is better to take separate account of the influence of interest and discount rates. So far as long-term international investments are concerned, differences in the supply of capital and in the economic opportunities available in different countries persist through long periods and lead to a long-continued movement of investment capital in one direction or the other (as from Europe to South America, or the Orient, or, before the war, to the United States). So, too, with short-time advances, like those represented by foreign bills of exchange, which tend to flow to the market or markets where discount rates are lowest. But changing economic conditions may bring about changes in the rate of the flow of such advances, and may, for a while at least, even reverse its direction. Thus, by reason of the war, the United States became an exporter rather than an importer of capital.

Changes in the volume and the direction of short-time international loans have, from year to year, an exceedingly important effect upon the balance of international payments. Such loans are peculiarly sensitive in their response to differences in the discount rates that prevail in different markets. Consider, for example, the effects of a cyclical advance of prices in the United States. Exports, in general, will decrease, while imports will increase. Gold exports, it might be expected, would follow — and frequently they do follow. But along with the advance of the domestic price level, carrying with it an expansion of bank credit, there will have been an advance of interest rates. The higher interest rates will normally be attended by a decrease in the amount of the loans made by the United States to other coun-

tries, or by an increase in its borrowings from other countries, or by both. Thus a change in the balance of indebtedness may act so as to diminish and delay gold movements. The delay may even continue until the balance of trade has turned in the other direction, so that gold shipments become unnecessary. Credit — made up of rights to demand gold — thus serves, like gold itself, to equalize the balance of international payments. It softens and reduces the shocks that attend irregularities in the movement of the world's trade and reversals of its trend. But it should be noted that gold frequently moves from country to country, not as an equalizer or stabilizer, but as a commodity. In such cases it may disturb rather than settle the international balance.

Discount rates, then, affect gold movements in an indirect way; through their influence upon international borrowings. It is not true, as is sometimes supposed, that bankers export or import gold for the purpose of utilizing it where discount rates are highest. That would involve a useless expense. International loans put the gold reserves of one country at the disposal of borrowers in another, without necessitating the actual shipment of gold — and sometimes forestalling or preventing it.

The central banks of European countries have learned to use their control of discount rates to discourage the export of gold. The Bank of England can use this method with especial facility, for the reason that London normally has a creditor's position in the international short-term money market. Confronted by an adverse turn of the foreign exchanges and by a threatened loss of gold to other countries, the Bank of England promptly raises its discount rate, — taking other steps, if necessary, to induce other lenders in the London market to advance their rates correspondingly, — thus anticipating and hastening what would have been, in all probability, the normal trend of the market. Long bills of exchange will then command a lower price in the London market, and the flow of such bills from other countries to London will be retarded. Some bills — especially those drawn upon other markets and held temporarily in the London market as investments — may be resold to bankers in other countries. In short, instead of exporting gold London often merely decreases the credits it holds against other

countries. These credits thus serve the purpose of a secondary banking reserve — a buffer protecting the ultimate reserves of gold.

Dollar Exchange. — Even before the war there were some who held that by reason of its vast resources the New York money market would soon supplant London as the world's clearing center. Our own trade at least, it was argued, should and would be very largely financed by means of bills calling for the payment of dollars in New York rather than for the payment of pounds sterling in London. Before the Federal Reserve Act was passed certain defects in our banking mechanism stood in the way, among the more important of which were the following:[2] (1) the legal inability of American banks to "accept" bills of exchange; (2) the absence of central banks where such bills could, if necessary, be rediscounted; (3) the absence of an "open market" where accepted bills of exchange could be bought and sold; (4) the lack of foreign branches of American banks.

The legal disabilities that were in part responsible for these lacunæ in our banking mechanism were removed by the Federal Reserve Act of 1913 and by subsequent amendments. Notable among these amendments was the Edge Act of 1919, which provided for the incorporation, under federal law, of "investment trusts," empowered to issue and sell their own obligations, protected by collateral deposited by foreign borrowers, and to employ the funds thus obtained in purchasing and holding bills of exchange drawn by American exporters.

The use of bills drawn upon New York was greatly stimulated by the war. In the first place, the dollar came to be the only important currency unit maintained at its pre-war value in gold. In the second place, the demand for American goods became so enormous that foreign countries could pay for them only by the aid of loans placed in this country, the proceeds of which were available in the form of dollar credits. In the third place, American exporters were in a position to insist upon payment in terms of dollars, and traders in other countries — in South America and the Far East,

[2] Cf. E. S. Furniss, *Foreign Exchange* (Houghton Mifflin Co., Boston, 1922), Chap. XIV.

for example — found it to their advantage to receive and make payments in a relatively stable and dependable currency.

With the impetus given by the war and with its improved banking mechanism, the American money market will undoubtedly continue to finance a larger proportion of American foreign trade than it did before the war. Nevertheless, London's position as the world's foreign-exchange center seems safe. Among the advantages which contribute to London's supremacy in this field are: (1) the worldwide character and varied nature of Great Britain's trade, especially her entrepôt trade, which facilitate the balancing and offsetting or *clearing* of foreign bills; (2) the highly developed and specialized mechanism of the London money market, and the established reputation of its banks and acceptance houses; (3) England's long-continued maintenance of the gold standard and of a free gold market, even though broken down temporarily by the war; (4) low discount rates. Of these different advantages the last is by all odds the most important. Bills of exchange, like commodities, will inevitably seek the market where they command the highest price. But this last advantage is itself dependent in some measure upon the other advantages mentioned. London's large holdings of foreign bills and, in particular, her position as an international clearing center, are among the factors that make her discount rates low, for they enable her to get along without excessively large investments in idle gold reserves.

Effects of Inconvertible Paper Currency upon International Trade and Exchange. — Unless two countries have the same monetary standard, no par of exchange, in a strict sense, governs the trade between them. As between a country on a gold standard and a country on a silver standard, there may be said to be, at any given moment, a par determined by the current price of silver in terms of gold. But this price fluctuates from day to day, so that the "par" which it may be said to determine has little of the steadying effect upon the price of exchange and the balance of payments which is exerted by a true par of exchange between two gold-using countries. The use of inconvertible paper currency leads to even greater complications in foreign exchange. Obviously, in trade between such a country and another — whether or not the

latter has a gold standard — there is nothing remotely resembling a true par. But certain students of the course of the foreign exchanges during and after the World War — notably Professor Gustav Cassel, a distinguished Swedish economist — have emphasized the part played by what is called "purchasing-power parity." According to this doctrine — which is really an old one — the rate of exchange under such conditions, or at least the "parity" toward which the actual rate tends, will be such as to equalize the domestic purchasing powers of the two currencies. Thus if a dollar purchases as much in the United States as twelve francs in France the doctrine demands that the price in New York of sight bills on Paris should be $8\frac{1}{3}$ cents per franc, and that bills on New York should be sold in Paris at the price of twelve francs per dollar. Any large departure from this rate, it is argued, would increase trade in one direction and decrease it in the other, so as to bring the rate back toward "parity."

The doctrine of purchasing-power parity encounters two difficulties. In the first place, the price levels of different countries are largely incommensurable. Goods are sold in the domestic markets of both countries that could not conceivably be exported or imported. Some adherents of the doctrine, recognizing this difficulty, modify it by taking into account only the prices of important staples of international commerce in the two markets. In this modified form the doctrine has some significance. If the cost in Europe of means of paying for imports from the United States is unduly high, Europe will get along with smaller imports, and the price in Europe of bills on New York will be lower than otherwise it would have been.

The second difficulty with the doctrine is more fundamental. Even though the rates of exchange and the prices of the staples of international commerce are necessarily bound together, yet the actual conditions under which a country is forced to employ irredeemable paper currency are such that domestic prices *follow* rather than determine the price of exchange upon gold-using countries. Such was the experience of the United States in the greenback period,[3] and such has been the recent experience of the

[3] See pp. 251–254, above.

countries of Europe. War, which drives a country to the use of irredeemable paper money, also generally curtails its capacity to export goods and at the same time often increases its demand for imports. It leaves behind it a heritage of debts payable to other countries. In short — save under such exceptional conditions as attended the participation of the United States in the World War — it increases the demand for foreign bills and decreases their supply. The abnormal situation thus created persists after the war is ended. The demand for means of making foreign payments abroad — to secure food and essential raw materials, to meet interest charges on funded debt, to reduce the principal of unfunded debt, and for reparations — is relatively inelastic. The price of foreign exchange is bid up to a high point. The domestic price level lags behind but nevertheless follows the rising prices of foreign exchange and of imported and exportable goods. Under such conditions the further inflation of the paper currency follows rather than causes the general rise of prices.

The course of the depreciation of the German mark affords an instructive although an extreme example. In May, 1923, the number of marks in circulation was between 4000 and 5000 times larger than in 1914. Retail prices had hardly kept pace with the increase in the volume of money, although they were about 3500 times as high as in 1914. Wholesale prices, however, had been multiplied by 8000. But the price in marks of dollars payable in the United States had risen to over 10,000 times the pre-war par.

These differences between the depreciation of a country's currency as expressed by foreign-exchange rates and as expressed by its domestic purchasing power must operate — so some writers have held — in such a way as to increase exports and diminish imports and thus to decrease or close up the gap between exchange rates and the domestic price level. The gap, so long as it exists, appears to be equivalent to a bounty on exports. Why should German producers sell goods at home when more *marks* could be got for them by selling them abroad for credits in dollars or pounds or francs, which could then be sold in the foreign-exchange market at high prices? In the years immediately following the war, producers in the United States and elsewhere professed to be alarmed

at the prospect of having to compete with German goods produced and exported under such apparently favorable conditions.

It was soon found, however, that the world's markets were not to be deluged with German exports. From 1920 to 1923 the volume of Germany's foreign trade was no more than two fifths of what it was before the war, and the loss in exports was greater than in imports. The increasing price of foreign exchange gave a fillip from time to time to Germany's exports, but no enduring advantage. The explanation is to be found in several considerations which were left out of account in the theory briefly sketched above. (1) Goods that cannot be exported figure in the statistics of the domestic price level. The domestic prices of imported and exportable goods move upward in much closer agreement with the price of foreign exchange. (2) Imported raw materials figure very largely in the manufactured goods exported from Germany (and from other European countries). The high price of foreign exchange affects the cost of such raw materials in precisely the same way that it affects the price that can be obtained for finished products. (3) The influence of speculation must be taken into account. In some measure the depreciation of the mark stimulated imports, by prompting importers to seek profits from the probable further rise of foreign exchange and of the prices of imported goods. (4) The German demand for important classes of imported goods — foods and necessary raw materials — is relatively inelastic.

Restriction of International Trade. — In ancient times among many nations, such as the Hebrews and Chinese, contact with other peoples was feared and foreign trade was practically prohibited. In Greece and Rome the greatest thinkers entertained a profound contempt for trade, based in part upon the belief that in exchange one party is usually cheated; and this prejudice was often justified by the character of the primitive trader, who might be part sailor, part pirate, part merchant, and was very likely to take all the profit he could possibly extort in every transaction as insurance against the great risks of his calling.

At a later date, in the Middle Ages, when commerce between the semi-independent cities of western Europe increased, trade came to be highly prized by the average citizen, although it was

still condemned by the philosophic schoolmen; and it was regulated in the most exclusive spirit.

Every effort was made to keep trade as much as possible in the hands of native citizens. For example, the Venetians forbade the Germans from engaging in trade with the East by way of Venice, and the citizens of Lübeck strove to keep the Baltic trade from the Dutch. . . . Foreigners were mistrusted and partnerships with them were forbidden. Foreign visitors were restricted in many ways in their commercial dealings with native citizens. Many occupations were closed to them; the length of their sojourn and the number of their visits were limited; they could not pass a town without exposing their wares for sale and paying the required market dues. The wants of the consumer took precedence over those of the producer or merchant. At the weekly markets consumers could supply their needs before the baker or merchant was allowed to make purchases. There was a community interest in the supplies of necessities, and often their exportation was prohibited. The trade of neighboring peasants was restricted to the home city, and laws regulating price, weight, measure, and quality were common. This restrictive municipal policy was very much relaxed at the great fairs which were held periodically in various parts of Europe.[4]

In the early modern period *Mercantilism* became dominant. Commercial policies were controlled by the desire to get and keep the precious metals. At first the exportation of specie was prohibited; merchants trading abroad were compelled to bring home cash for the goods they had taken out with them; foreign merchants trading within the home country were compelled to exchange their cash for domestic goods before they departed; exportation — except the exportation of raw materials needed in the manufacturing industries — was encouraged; and importation — except in the case of the precious metals and the skilled artisans who were encouraged to immigrate — was discouraged or prohibited. When it became apparent that the supply of money had to be secured through international trading, greatest emphasis came to be laid upon the "favorable balance of trade"; and means, ranging all the way from bounties to war, were vigorously employed to secure the carrying trade for native ships.

Much mercantilistic legislation was immoderate, some of it barbarous, most of it marked by short-sighted national jealousy. Adam Smith has held it up to scorn. Some later writers have

[4] G. M. Fisk, *International Commercial Policies* (The Macmillan Co., New York, 1919), pp. 15–16.

defended it as in the main necessary. No verdict on the subject needs to be given here. It accompanied the welding of the great modern states; and the consolidation of the smaller autonomies probably removed more restrictions and more petty mercantilism than the new consolidation called into being.

The mercantilist period has been followed — after a brief *laissez-faire* reaction in some countries — by the period of protection in which we still linger. The extensive taxation of imports still continues; but trade prohibitions and export duties have been largely abandoned in the more advanced countries.

Indirect restriction of exports, however, has grown in recent years through the development of the international cartel; and in a number of instances particular exports have been regulated by the government, or with the sanction of the government, for the purpose of securing adequate profits for producers, and in some cases of securing monopoly profits. The British East Indian rubber control (under the "Stevenson Plan" of the London Colonial Office); the Brazilian practice of coffee valorization; the control of Mexican sisal hemp prices and production are instances of restriction exercised in recent years. But the international cartel and government control of the kind illustrated raise questions of monopoly or regulation of output, rather than of trade restriction in the ordinary sense; and they must be justified or condemned by the standards discussed in Chapters XI and XXVII.

Nature and Advantage of International Trade. — It is obvious that there must be some restriction of foreign trade. Fiscal necessity, for instance, forces most countries to raise a large part of their national revenue by import duties. It was not long ago that "free-trade" England raised more national revenue from customs than any other single source of taxation. Trade restrictions have existed as long as international trade itself, and the real problem is not whether there shall be any restriction but where and when particular varieties of restraint are justifiable. To answer that question it is necessary to make some examination of the nature and advantage of international trade.

By far the most important truth in this connection is the simple fact that trade is a necessary part of the process of production.

Trade is as beneficial, as truly productive, as agriculture or manufactures. The people of the United States are just as truly engaged in production when they import pulp from Canada as when they cut down their own trees to be manufactured into "yellow journals."

Trade is not only productive in the sense that it creates utilities, but it is an indispensable part of the division of labor. Men specialize in the production of those things in which they excel. A manufacturer of shoes may be a skilled cabinetmaker as well, but except for recreation he will not make his own furniture. By specializing in shoes he can buy with shoes, or the proceeds of their sale, more and better furniture than he could make with his own hands. An individual who makes anything for himself must figure as part of the cost of production what his labor could be sold for in other fields; and he obviously loses money if on this reckoning the thing he makes costs more than it could be bought for on the open market. The same is true of communities. The city that by grants of land or the remission of taxes manufactures within its own borders things that it could buy more cheaply outside, loses by the transaction. Not only individuals but communities and nations must specialize if the maximum productivity is to be secured. There is a territorial as well as a personal division of labor, and trade is of the essence of both.

The Law of Comparative Costs. — Exchange remains profitable, even though one of the parties is superior in all-around productive efficiency. A good lawyer may be able to operate a typewriter better than his typist. But it will still pay the lawyer to specialize in law and to buy the stenographic service he needs. Suppose that we were suddenly brought into contact with a country over which we had a universal productive advantage. Everything would be cheaper here; competition would force the other country to buy from us in all lines; gold would flow from that country to this; prices would fall there and rise here; in time an equilibrium would be reached and the other country would sell to us the things in which our productive advantages were least important. Articles of export and import would sell at the same prices in both countries except for the cost of carriage.

Each country manufactures the products in which it has a *comparative* advantage and buys with these products other goods which it needs. It specializes in the production of those things in which the comparative cost is lowest. This is the *law of comparative costs*. If a group of individuals insist on making something which they could buy for less than it costs them to make it — reckoning their labor as costing what it would bring them in other lines of industry — there is a comparative loss.

But what of non-transportable goods, — houses and the like? Assume a state of civilization in which the sole articles of consumption and production are flour, cloth, and houses. Assume that the United States produces flour and houses, buying its cloth from England, and securing by such specialization or division of labor more cloth than it could otherwise secure. Suppose then the trade in cloth is closed, and that the United States is forced to manufacture the cloth it needs. Capital and labor would be diverted from the production of flour and houses to the production of cloth. More houses and more flour would have to be paid for a given quantity of cloth. A given quantity of flour or house accommodation would buy less cloth than formerly. In general there would necessarily be less flour, cloth, and houses than before; the general or average productivity of labor and capital would be reduced; and houses would be affected exactly like flour and cloth by this lowering of the level of productivity.

The fundamentals of the problem are not changed by the introduction of money. When the importation of cloth was stopped England for a time would continue to buy flour; but specie instead of cloth would move from England to the United States; prices would rise in the United States and fall in England; capital and labor in the United States would be attracted to the production of cloth; wages as well as prices would rise. This is the initial and obvious effect of trade restriction. For a time it raises prices, profits, and money wages and gives a fillip to trade by making it profitable to start a new industry. It is no wonder that protection is so popular. It is an industrial stimulant.

But the sequel is different. The flow of specie from England reduces wages and prices there, including the price of flour, and in

time England will be forced to produce more flour for herself. This means a stimulus to the flour industry in England and a corresponding decline of the flour industry in this country. England's "stimulant" comes later. Trade restrictions tend, therefore, in the first instance, to raise wages and prices in the country imposing them; but in the long run they produce alternating periods of depression and activity in both countries, and enable one country to injure another by forcing the latter to readjust her industries and even to produce things she would prefer to secure by purchase. Tariff tinkering is a fertile source of international friction, and indirectly one of the provocatives to war.

The Case of Unequally Developed Countries. — Up to this point our consideration has been confined to two countries in the same stage of development, with no great differences in the general levels of wages and interest. What if one country is newer, less fully exploited, and has a higher level of wages and interest?

It will be noted in this case that labor and capital would be migrating from one to the other, with or without tariff restriction. If, however, the country with higher wages imposes a tariff on cloth, as assumed above, the migration of capital and labor would be hastened. The development of the cloth industry in the younger country would draw some of the labor and capital previously engaged in producing cloth in the older country. The subsequent decline of the flour industry in the younger country, however, would probably not send capital and labor back to the old, because there would be better opportunities in the younger country. We can see no escape from the conclusion that trade restrictions of this kind do tend to hasten migration to the country where real wages are on the higher level. The effect of such migration is curious and interesting. Many writers hold that it does not permanently increase the population of the newer country, but merely substitutes immigrants and their offspring for descendants of the older pioneers; while in the older country population is not reduced, owing to the expansibility of the labor supply within the limits determined by the accustomed standard of living. But these phenomena need not be considered here. Whatever happens will be due chiefly to the fact that real wages and income are higher

in the one country than in the other. Tariff restrictions exercise only a minor influence.

What if the older country had a positive tariff policy, with import duties on some products, when the new country was discovered and began to develop a foreign trade? In accordance with the reciprocal influence upon the division of labor noted above, existing trade barriers would unquestionably exercise an influence, probably a deleterious influence, upon the distribution of capital and labor in the younger country. If the older country had heavy import duties on agricultural products, the expansion of agriculture in the newer country would be retarded and the development of manufactures stimulated. There can be no doubt about the power of one country injuriously to affect the division of labor in another. But will it pay the younger country to adopt countervailing or retaliatory duties? Can it secure the ideally perfect distribution of labor and capital by retaliatory restrictions?

In theory this is partially possible. Revert to the illustration in which under normal conditions the younger country would produce flour, the older country cloth, and both countries houses. Suppose the older country were to place a tariff on flour so that more flour and less cloth would be produced there. In all probability the older country would be forced to continue the importation of some of the flour which it consumed. Under this hypothesis the younger country could set in motion partially corrective forces by placing an export duty on the shipment of flour, by giving a bounty on the production of flour, or by levying an excise duty on the production of cloth within its borders.

In practice, however, such corrective measures are nearly useless. No country knows what the ideal or normal division of labor for her would be. Moreover, export duties and bounties are costly to administer and liable to abuse. Conceivably, of course, trade interference by one country may become so unreasonable, so unsettling, so capriciously injurious, that other countries may be forced to protect themselves.

The general political and social aspects of protection are discussed in the next chapter. They furnish, as will be seen, some theoretical justification for trade restriction. Surveyed as a purely commercial

question of dollars and cents, however, the profitableness of the unregulated territorial division of labor is beyond all question of doubt, in the opinion of the authors; and the history of international trade fully confirms the bald theory here outlined. So long as the comparative costs of producing different kinds of transportable goods vary among the different nations of the world, so long there will be some international trade. International trade can be permanently suppressed only by raising freight charges to prohibitive levels, or by deliberately manipulating tariffs so as to suppress every new international trade connection as soon as it springs up, or by the complete destruction of industry in other parts of the world. According to theory, then, international trade is for practical purposes irrepressible, and the ideal of an exclusive home market is a delusion.

This theory has been subjected to the most searching test. During the last fifty years trade restriction has been piled on trade restriction, and protective tariff walls have been built higher and higher. But there has been no diminution in international trade. On the contrary, it has increased and developed by leaps and bounds.

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CHAPTER XIX

PROTECTION AND FREE TRADE

In a world controlled by purely economic considerations, in which there was neither war nor preparation for war, protection would in the long run almost certainly represent a losing policy. But the World War has supplied another illustration, on a gigantic scale, of the historic truth that the tariff problem cannot be regarded as a purely economic question. Protectionism, which before the war played a material part in generating the international friction which brought on that conflict, has since the war rapidly gained ground, as indeed it had been doing for a half-century preceding the outbreak of hostilities in 1914. Since the war, additional protective tariffs have been adopted by the new states created by the Treaty of Versailles; the older states have generally denounced their pre-war commercial treaties and have strengthened the tariff barriers which protect them; old strongholds of free trade such as Great Britain and Holland have made important concessions to the demand for protection; both the import and export of particular articles have been prohibited or radically restricted by governmental licensing systems; and there has been a general adoption of anti-dumping duties designed particularly to restrict imports from countries with greatly depreciated currencies, the latter acting, although temporarily, as a marked stimulus to exportation. This stimulus was so great that Germany and Austria adopted restrictions to prevent *Ausverkauf*, *i.e.* the buying out of domestic markets by purchasers from foreign countries having currencies of relatively high purchasing power.

All this makes it plain that in the world as it exists, tariff policy cannot, as a matter of fact, be controlled by considerations of mere dollars and cents. The modern state repeatedly sacrifices the economic gains which could be achieved by a thorough-going applica-

tion of the territorial division of labor, in order to foster industries needed in time of war, to counteract the harmful effects of foreign tariffs, to provide penalties against unfair practices on the part of foreign trade competitors, to raise needed revenue, and above all, perhaps, to secure that temporary stimulus of heightened prices and wages to which attention was called in the preceding chapter.[1] When the nation is in a fit of depression, it " picks itself up " with a fillip of increased customs duties. It may be unwise as a general rule to use stimulants; but it cannot be denied that protection frequently affords an effective stimulant. When factories are closing down and trade is languishing, a part of the home market theretofore enjoyed by foreign dealers may be temporarily taken from them and given to domestic dealers. It is true, of course, that such action may provoke reaction and retaliation in the future. But the protectionist is willing to meet future problems when they arrive — possibly with an increased dose of the old remedy. While the arguments for protection change from time to time, this craving of the " tired business man " for immediate relief has been over a long course of years perhaps the most potent single factor making for the political success of the policy of protection in this country. The principal arguments by which that policy is defended, however, are of a different type and must be considered in more detail.

The Case for Protection. — 1. One of the most captivating arguments for protection is the assertion that it promotes *nationalism*, which is held to be a good thing. Domestic trade, it is claimed, draws the citizens of a country together, while international trade is cosmopolitan and tends to their separation. Upon the creation of our federal government, state tariffs were abolished and their place taken by a national tariff designed partly to protect the whole of the country against the rest of the world. The introduction of national protection thus went hand in hand with the promotion of internal free trade; and Professor Schmoller maintained the general thesis that, historically, this double process of internal abolition and external extension of tariffs marks the formation of new states, particularly federal states. Protection against foreign competition, he asserted, is thus historically coincident with the enfranchisement

[1] P. 366.

of internal trade, and has as its main object the creation of a strong national economic unity, without which permanent political unity, he maintained, is impossible. The validity of this argument, it will be noted, depends largely upon the truth of the assumption that the development of a strong feeling of national unity is a thing to be desired.

2. Governments should, the protectionists say, foster *infant industries* in order to develop the natural resources of a country and to produce diversity in industrial pursuits. We prevent children from earning a little while they are young in order that they may earn more when they are old. For the same reasons many trade-unions insist that apprentices shall be given a broad knowledge of the trade they are learning, although it is more profitable for the employer to have them specialize early in some narrow branch of the work. So, similarly, protection prevents a nation from specializing too exclusively in its undeveloped stage, in order that it may the sooner arrive at industrial manhood.

Economists have generally admitted that there is a certain amount of truth in this argument. If an industry gets an early start in a given district, this locality is likely to retain its advantage because of the concentration there of business men and laborers acquainted with the requirements and possibilities of the industry. Of course, such localized industries can be maintained only when the cost of transporting the article is small; and when other districts do not possess unusual natural advantages in the way of accessibility to superior raw material, power, or skilled labor. The census studies in the localization of domestic industries seem to indicate that while the industrial inertia of which we have been speaking is an important factor, it is not so important as the opposing forces making for territorial diffusion of industry.

A most interesting illustration of an attempt to crush the " infant industries " of a competing nation is found in the effort of English manufacturers after the War of 1812 to recover the American market of which they had been temporarily deprived by the long period of nonintercourse.

English manufacturers, eager to regain control of the lost markets, sent in shiploads of cotton and woolens and iron manufactures, which they offered on

the most liberal terms to their agents in this country. The goods were taken on credit and disposed of at auction. The object was to undersell at any cost, and thus break down the infant industries. Lord Brougham justified the speculative character of this trade on the ground that 'it was well worth while to incur a loss upon the first exportation, in order, by the glut, to stifle in the cradle those rising manufactures in the United States which the war had forced into existence contrary to the natural course of things.'[2]

3. Closely connected with the preceding arguments is a defense of protection based upon grounds of war and *military necessity*. Obviously, no great state can permit itself to become wholly dependent upon foreign nations for its supply of war equipment and munitions. But in modern war the list of "essentials" extends far beyond the obvious enginery of war. General industrial self-sufficiency, it is asserted, is desirable. There is unquestionably much truth in this argument. Before the World War, Germany used protective tariffs to preserve her capacity as a producer of food and the raw materials necessary for her industries; and her ability during the war to provide in large part for her food necessities indicates that as a measure of military preparedness this policy was justified. Similarly, her protection and encouragement of the dye industry, before the War, helped to create an important peace industry which, because its processes and technique are largely the same as those required in the manufacture of explosives, could be readily turned under the stress of war to the immediate manufacture of munitions. It is true that some war essentials, such as nickel, antimony, tungsten, and quicksilver, the United States possesses in such small quantities that provision must be made by accumulating reserves in advance; that other essentials, such as nitrates, can probably best be produced in this country by government plants or in plants directly subsidized by the government. But other industries, *e.g.* dyestuffs, can conceivably be built up in this country by protection; and in such cases purely economic arguments against protection are likely to avail little. In any event, a self-respecting and farsighted nation will retain its ability to feed and clothe its people and its armies in time of war. The failure of the South in the Civil War was largely due to her industrial dependence upon the

[2] Coman, *Industrial History of the United States* (The Macmillan Co., New York, 1905), p. 185.

cotton export trade. A sufficient diversification of industry to prevent industrial paralysis and to insure a prompt supply of the necessaries of life in time of war is manifestly desirable.

4. The *home market argument* for protection naturally follows. Much that is said in defense of this claim is childish. One distinguished American economist seriously maintained that a country can remain permanently prosperous only on condition that what is taken from the soil shall be returned in manure and other kinds of fertilizers, and that this will be accomplished only when the products of the soil are consumed at home. A much stronger application of the argument, however, is found in the assertion that the home market is superior because it is a surer market. A foreign market is likely to be closed by war or by capricious changes in foreign tariffs. If it were practicable to take and keep all home markets for home producers, it might conceivably be wise to pay the price. But when by increased duties we take one home market from the foreign producer, we are likely to give another home market to some other foreign producer, or — what is much the same thing — when we capture a new home market for one domestic industry, we are likely to deprive another domestic industry of an equivalent home or foreign market which it has theretofore enjoyed. Thus, protection for the American manufacturer is likely to injure the foreign market of the American farmer and raise the latter's cost of living and expenses of production. And only in a few lines is it possible to compensate the farmer by effective protective duties on agricultural products.

5. This brings us to the argument for protection as a *defense against "dumping."* By dumping is meant the sale of products abroad at prices lower than those charged at home. Dumping arises in a variety of ways. Export bounties may be granted by the home country for the specific purpose of encouraging foreign trade; or a monopoly may find it profitable to dispose of a surplus abroad at prices which would be needlessly low in the highly protected home country; or manufacturers may avail themselves of the difference between fixed and variable expenses of production to secure some profits over the specific or variable expenses of production by selling abroad at prices which would not be remunerative

if applied to their entire output. Moreover, the low price at which certain American products are sometimes sold in Europe would seem to indicate that many manufacturers for the export trade make it a practice to sell abroad at unusually low prices whenever they believe that their foreign market is threatened.

Now if the reduction of prices were permanent, the country in which the products are dumped would have no real cause for complaint. On the contrary, it might logically regard itself as a beneficiary of the foolish practices of foreigners. But real dumping is not intended to be permanent. It often aims to secure foreign markets by selling temporarily at prices which in the long run would not be profitable; and when the market is secured, prices will be raised. If temporary and malicious dumping can effectively be prevented by countervailing customs duties, neither the economist nor the freetrader can logically object to their employment, since their object is not to afford protection in the usual sense, but to prevent or punish a prominent form of unfair competition. Dumping is one form of local price discrimination; and it is interesting to note that the Tariff Act of 1922 "extends to import trade practically the same prohibition against unfair methods of competition which the Federal Trade Commission Act provides against unfair methods of competition in interstate trade. Under this section [section 316], additional duties may be imposed on the importations of any individual engaging in unfair price-cutting, full-line forcing, commercial bribery, or any other type of unfair competition; and if the unfair practices are of an aggravated character, the offending individual may be prohibited from importing goods into the United States."[3] We touch here upon what may be called the international trust problem, an obviously "difficult field." Countervailing import duties or even prohibition of imports may prove ineffectual remedies, and if unskillfully used they may lead to costly trade wars. But until better remedies are available, it seems obviously wise to authorize their use as the only measures offered of minimizing in the import trade those demoralizing practices which we properly seek to repress at home.

[3] W. S. Culbertson, "The Making of Tariffs," *Yale Review*, Vol. XII, January, 1923, p. 269.

In the past dumping was perhaps more productive of arguments against protection than of arguments for protection, in the United States. The opponents of protection laid great emphasis upon the fact that many articles of American manufacture were sold abroad more cheaply than at home. That this was a fact was generally admitted. But protectionists maintained that most of this could be explained by the rebates allowed to American exporters under our drawback laws, and by the lower costs of distributing or selling goods abroad. Ex-Secretary of the Treasury Shaw estimated that in 1906, owing to these drawbacks, about $140,000,000 of American manufactures might have been legitimately sold abroad at less than domestic prices.[4]

The scope of the so-called anti-dumping measures has been greatly extended by the World War. Thus, the British Safeguarding of Industries Act of October, 1921, not only imposed a duty of $33\frac{1}{3}$ per cent upon imports competing with the products of British "key industries" (dyestuffs, hosiery, needles, scientific instruments, optical and chemical glass, metallic tungsten, and certain ferro-alloys), but authorized the extension of this duty by administrative action to imports which, because of currency depreciation in the foreign country of origin, could be offered for sale in the United Kingdom at prices less than those at which they could profitably be manufactured in the United Kingdom, provided that the continued importation of such articles was likely seriously to affect employment in Great Britain and that the British industry seeking protection was conducted with reasonable efficiency.

6. Many arguments for protection rest on the assumption that it is desirable to *diversify industry*. One of these parallels the free trade argument based upon the territorial division of labor, and demands a sufficient diversification of industry to utilize fully all the industrial talent of the home population. It is unprofitable for a country to specialize in agriculture if the population of that country has in high degree the talents required for manufacturing and mechanical industries. Again, it is maintained that protection leads to the more rapid accumulation of capital by fostering that type of industry which most rapidly saves and accumulates capital. The modern corporation is perhaps the greatest agency of saving yet devised. Furthermore, it is maintained that the diversification of industry increases wages by stimulating the demand for labor. As

[4] Leslie M. Shaw, *Current Issues* (D. Appleton and Co., New York, 1908), Chap. XXI.

has already been pointed out, the prices of particular products may be increased and money wages in the corresponding industries may be temporarily raised by new or increased duties on such products. But that the general level of real wages or incomes in any country may be permanently raised by protective duties is contrary to the better teaching both of political economy and economic history. Certainly some of the cruder wage arguments for protection are absurd. It has been repeatedly maintained, for instance, that every American industry is entitled to an amount of protection equal to the difference between the wages which it pays and the wages paid by its most efficient foreign competitor. Link this argument to the initial claim that protection raises wages, and the result is the following amazing plea for ever-increasing tariffs: Protection raises wages — but high wages put the American manufacturer at a disadvantage in competing with foreign producers — and the home producer must be protected to the extent of the difference in wages — therefore, every advance in protective duties laid for the benefit of the wage earner must be accompanied by additional advance for the benefit of the manufacturer — and so, *ad infinitum*.

7. That protective duties should be used to *equalize costs of production* here and abroad — or more accurately, to equalize "the difference in costs of production in the United States and the principal competing country" — has been widely advocated as the modern and scientific basis of protection. Indeed, in the Tariff Act of 1922 this formula seems to have been adopted as "the policy of the Congress by this Act intended." The proposal has many attractive features. It recognizes that some taxation of imports is necessary, but abandons the Chinese-wall interpretation of protection and aims to preserve competition between domestic and foreign producers. But it looks to the permanent adoption of protection and to continuous readjustments of protective duties as costs of production change here and abroad. From the standpoint of economic principle, its validity rests on the assumption that the collateral or indirect advantages of diversified industry are worth the cost of maintaining indefinitely in this country a large number of non-essential industries which could be conducted at a lower cost abroad. It raises again the old question whether it pays to pro-

duce goods here at costs in excess of the prices for which we could purchase them from foreign producers.

As a standard or measure of the amount of protection to be applied, the rule, it is certain, will be found in practice to be unsatisfactory. Many important articles, such as wool, are joint products. Neither the economists nor the cost accountants have yet succeeded in devising a satisfactory method of computing or allocating the cost of a joint- or by-product. It may fairly be said, that problem is, in general, insoluble. Again, costs vary greatly from producer to producer, and from place to place. In the case of beef cattle, wool, sugar, and many other products of like importance, the average cost by states frequently varies by more than thirty per cent, and in some years by more than fifty per cent. If duties are to be based on average costs throughout the United States, compared with the average costs in the principal competing country, the producers in the high cost states are likely to raise most effective opposition to tariffs honestly adjusted on the basis of this rule. Furthermore, it is difficult, and in many cases impossible, to get accurate cost data in foreign countries. And in the end, the task of getting comparative costs for many articles year after year will probably prove beyond the powers of a governmental department, however well disposed. The record of the Interstate Commerce Commission with the valuation of railways, and that of the Treasury Department with the determination of invested capital under the excess profits tax, hold no encouragement for the belief that complicated economic questions of this kind can be expeditiously handled by the federal government. Finally the rule of equalizing costs of production affords no criterion by which the goods to which protection is to be granted shall be selected. Applied indiscriminately it would lead to such absurdities as high protective duties on tropical fruits or other things which might conceivably, but with great disadvantage, be produced in the United States.

Arguments of Free Traders. — The most effective arguments of free traders are those which aim to show either that protection does positive harm, or that it fails to accomplish its ends, or that those ends may be better accomplished without protection.

1. The natural starting point of the free-trade argument, and the

goal to which it inevitably returns, is the *theory of comparative costs* laid down on page 365. So long as there are relative, not necessarily absolute, differences in the cost of producing cheaply portable articles in various countries of the world, so long will there be international trade in those articles. Protective tariffs, therefore, merely divert capital and labor from intrinsically more productive to intrinsically less productive industries. To revert to our simile of the lawyer and his stenographer, protection aims to induce the lawyer to write his own letters, on the general grounds that lawyers are more intelligent people than stenographers, and if sufficient encouragement be held out to them they may, in the course of time, be educated up to the point of operating their own typewriting machines better than the stenographers whom they have previously hired.

Temperate advocates of " freer trade " do not contend that this law of comparative costs demonstrates the desirability of complete free trade under all circumstances. They admit that it may occasionally be profitable for a country to pay enormous bounties — this is what protection amounts to — for the development of certain industries. But they do contend that it establishes free trade as the general rule, every departure from which should require the most positive justification. More particularly, they hold, that at the present time, after a century of industrial development, capital and labor should be freely allowed to take themselves to those employments in which they can reap the largest natural reward, a reward, that is to say, which is not artificially enhanced by subsidies wrung from the general body of consumers.

2. Moreover, it is clear that protection is not necessary to *diversify industry* in a country with such varied natural resources as the United States. The claims of the protectionists at this point may be tested by examining conditions within the wide borders of our own country, within which trade is wholly free. Now, if protection were necessary to foster infant industries and bring them to maturity, the manufacturing industries of this country would still be concentrated in the northern states of the Atlantic seaboard, where they first gained a foothold. But they have not been so confined. The early establishment of the textile industries in New England has

not prevented their rapid development in the South. As pointed out in Chapter VII, the movement of industrial decentralization has been specially rapid in recent years. Internal free trade has not prevented the diversification of industry in the United States.

3. The inevitable spread of manufactures throughout the United States suggests the essential weakness of the *home market argument.* International trade expands just as inevitably as the manufacturing area. It might be desirable to confine domestic producers to the more certain home market, which cannot be destroyed by tariff wars or international complications. But, as a matter of fact, home products will seek foreign markets, and the nation that sells abroad must buy abroad. Since the Civil War we have protected home producers with extremely high tariffs. But in the last fifty years our foreign trade has increased even more rapidly than the foreign trade of the rest of the world. Protective tariffs can cripple and harass and distract foreign trade, but they cannot permanently suppress it.

4. The protectionistic appeal to the *wage earner* seems particularly inconclusive. One reason for distrusting it is the double-faced way in which it is manipulated to suit the particular requirements of time and place. France wants protection in order to protect her low-paid workmen against the "greater skill and efficiency" of America's highly paid workers. The United States, on the other hand, must have protection in order to shield her highly paid employees from competition with the "pauper labor of Europe." When first used in the United States the argument was that wages were already so high in this country as compared with England, that it was impossible for manufacturers in this country to pay the American rates and continue to compete with English manufacturers. Later, cause and effect, as related in the earlier syllogism, were reversed, and it was asserted that the high wages in this country were due to protection, from which it followed naturally that in order to raise wages higher, still more protection would have to be given.

We cannot arrive at any useful conclusions concerning wages, however, without considering the efficiency of labor and the pro-

ductivity or favorableness of the environment in which the laborer works. The reason why American labor may receive higher wages and yet have nothing to fear from the competition of less highly paid workmen in Europe is found in the great productivity of American labor (though this greater productivity may depend more upon machinery and the natural wealth of this country than upon any innate technical superiority of the American workmen). The average American workman is in no more danger from the goods produced by the "pauper labor" of Europe than the highly paid workman of Montana is threatened by the products of his less well remunerated fellow-workmen of the South. Labor competes with labor, not with commodities. Consequently, if it is really desired to protect labor, the logical way is to place a tax on imported labor, or to restrict immigration, as the United States has already begun to do. Indeed, if our tariff makers are sincerely anxious to benefit labor, they should, after rendering labor scarce and dear by restricting immigration, encourage the importation of such commodities as are consumed primarily by wage earners, in order that labor may secure an abundance of them cheaply.

No intelligent free trader would deny that there are now dependent upon protection many industries which pay high wages, nor that the sudden abolition of protection would throw many wage earners out of work. Their contention in the first case is merely that by taxation and by diverting capital and labor into naturally unproductive industries, protection lowers the general level of real wages. Their reply to the second point is that protection affects the industrial organism much as the alcoholic habit affects the human organism. To abandon the habit suddenly would certainly be painful, and possibly dangerous — but this is sufficient reason neither for increasing the dram nor delaying the gradual abandonment of the habit.

5. Turning to the *fiscal aspects* of the question, the free trader asserts that there is little or nothing to be said in favor of protection. The protective import duty, as compared with the import duty "for revenue only," is a poor tax. It is uncertain and perversely variable. Thus in 1913 the customs receipts amounted to about $319,000,000 or 44 per cent of the total ordinary receipts: but in

1918, when the war was at its height and revenue was sorely needed, the customs collections fell to about $183,000,000, less than five per cent of the total ordinary receipts. In 1928 the customs receipts came to $568,156,593. Though this represented nearly 15 per cent of the total ordinary receipts, the percentage was still far below that of 1913.[5] In the great majority of cases the tax is borne by the home consumer. To the extent that it does not prevent importation it affords no protection; and in so far as it does protect, it yields no revenue to the government. If it raises the price of the article upon which it is levied, however, the increase constitutes a tax upon one class of society — the consumer — for the benefit of another class — the producers of the article. One authority, perhaps the foremost authority, upon the American tariff problem, estimates that the tariff upon sugar imposed by the Payne-Aldrich Act of 1909 resulted in an annual tax upon American consumers of $101,000,000, of which $52,400,000 went into the treasury and $48,600,000 into the hands of sugar producers, principally resident in Hawaii, Porto Rico, and Cuba.[6]

In answer to this charge that protection involves the taxation of one class for the benefit of another class, it is not sufficient to reply that everybody is free to take advantage of the subsidy and engage in a protected industry. Everybody is not free to establish a rolling mill or a silk factory or a tin-plate plant. Protection means the taxation of the less acute, the less enterprising, the less educated, and the poorer classes in order to create additional commercial opportunities for the abler, wealthier, and better-educated classes, thus reversing the whole spirit of modern taxation which contemplates — so far as it may be done without danger — rather the taxation of the rich for the assistance of the poor than the taxation of the poor for the benefit of the rich. It is not implied, of course, that protection involves class legislation of an unlawful character, or that taxes are collected from one class and handed over in cold cash to the members of another class. The point turns upon the relative ability of the various social classes to take advantage of

[5] *Annual Report* of the Secretary of the Treasury on the State of Finances (Government Printing Office, Washington, D. C., 1929), p. 114.

[6] Professor F. W. Taussig, in the *Atlantic Monthly*, March, 1908, p. 342.

artificial opportunities created by the state at enormous expense to all.

6. This brings us naturally to the *ethical criticism* of protection, the charge that by making the temporary prosperity of influential classes dependent upon government bounty, protection encourages those classes to exert a demoralizing pressure upon federal legislation. So great is the stake of private interests in tariff legislation, that systematic lobbying, log rolling, and corruption of the voter follow as inevitable consequences. The beneficiary of the tariff sacrifices his disinterested convictions concerning the general welfare, in order to preserve his own little subsidy from the government. Even if we admit what is probably true, that protection has resulted in comparatively little direct bribery of legislators, there seems no escape from the conclusion that it creates a kind of interest in legislation which is inherently dangerous and exceedingly difficult to keep within legitimate bounds. The weightier arguments for protection all imply that tariff laws should be scientifically adapted to secure the real national purposes of protection. The impossibility of getting a " scientific tariff " under the political conditions that protection creates is possibly one of the strongest arguments against protection.

7. Finally, it is alleged that protection *fosters monopoly*. This contention forms the subject matter of a particularly heated dispute, the exact truth of which is difficult to determine. Certain modifications of the more extreme charge, however, are hardly open to question. Protectionists take it for granted that if foreign competition is shut off or lessened, home producers will still compete. Nevertheless, protective duties have frequently been levied upon the import of commodities whose manufacture in the United States had fallen under the substantial control of trusts. It is furthermore admitted that such trusts have frequently sold their products at lower prices in foreign countries than in the United States; while it is impossible to deny that — whether the trust *was created* by protection or not — the abolition of the duties, by giving foreign producers a chance to compete in this country, would tend to reduce prices, and thus give the American public a valuable ally in their struggle against monopoly. It is not true that the tariff has

been "the mother of the trusts." Other and more important forces are mainly responsible for the development of the trust. But protective tariffs have at times deprived the American people of a strong weapon against the trusts.

Conclusions. — Most of the arguments enumerated above, both for and against protection, contain a measure of truth. Historically, protection was inevitable in the United States while industry was still in an early stage of development. During the great wars which seriously threatened the stability of this country, many new industries sprang up which, upon the cessation of war and the resumption of international trade, were seriously threatened by foreign competition. Many of these industries were so suited to our soil and our people that only a short period of protection was needed to make them self-supporting. Under the circumstances it would have been unwise to permit the sacrifice of the capital invested in these industries; and whether it would have been unwise or not, human nature is such that the desired protection was sure to be granted.

For the immediate future, it is plain, as a matter of practical politics, that the United States and most other nations of the world have adopted protection as a settled policy. On this account unusual importance attaches to *flexible or elastic tariffs* under which administrative bodies are authorized to change duties in accordance with the general policy laid down by the legislature or the government. In Great Britain the Board of Trade and committees appointed by it are given wide powers to impose protective duties under the Safeguarding of Industries Act of 1921; in France, from the end of the World War until the close of the year 1922, an Interministerial Commission adjusted duties to meet fluctuation changes in international exchange due to currency depreciation; in the United States, under the Tariff Act of 1922, the President, acting on findings of the Tariff Commission, is given wide powers to change duties so as to equalize costs of production here and abroad. While he may not change specific duties or move an article from the free to the dutiable list, or vice versa, or change any ad valorem duty by more than 50 per cent, he may change classifications, increase or decrease ad valorem duties within the limits noted, and substitute

the American selling price for the price of the article in the country of importation as the basis of the assessment.

It seems highly probable that in this and other countries, administrative bodies are to be given larger powers in the making of tariffs than they have exercised in the past. The elastic tariff is attractive in its aims and purposes. It promises in some degree to take the tariff out of politics, to put protection on a "scientific basis"; and President Harding even called these provisions of the Tariff Act of 1922 "the greatest contribution towards progress in tariff-making in a century." That eulogy has not been justified by experience. The elastic provisions have facilitated increases in duties, and where an increase is justified by the policy and standards of the tariff law, prompt action is of course a virtue. But in important instances in which a convincing case has been made for reduction of duties, no action has been taken. As administered, the law has been effectively elastic only in one direction. Moreover, the policy-formula upon which the whole program in this country rests — that of equalizing differences in costs of production — is regarded by most authorities as unsound in principle. Even if we concede the question of principle, the cost-of-production rule remains, for reasons stated above, a particularly difficult formula to apply in good faith.

It would be very easy, with administrative delay and hesitation, to make tariff tinkering by a commission far worse than tariff tinkering by Congress, which in the nature of things can hardly attempt general revisions of the tariff more than once every eight or ten years. It is to be hoped, however, that the experiment will succeed, because within the limits to which the tariff controversy is now confined by common consent in the United States, methods of tariff making have become of more importance than the objects of tariff revision. The problems created by the treatment are greater than those created by the disease. We deeply need respite from the political fever of tariff controversy. There are more important national problems to be solved which will challenge all our strength and all our political intelligence.

Looking beyond the immediate future, however, we expect that the next half-century will record a movement towards freer trade.

The fundamental conditions which made high protection in this country inevitable have changed. Our *quondam* infant industries have for the most part attained a vigorous maturity, and in some instances have become belligerent and prone to monopolistic bullying; our manufactures have become sufficiently diversified to remove all danger of industrial collapse in time of war; and, above all, we are rapidly entering the economic stage in which, according to the ablest exponent of protection that economic science has ever known, — Friedrich List, — protection is a hindrance rather than a help. That is to say, we have built up an extensive export trade in manufactured articles; year by year raw materials constitute a larger proportion of our imports and a smaller proportion of our exports; and we have already become the greatest exporting country of the world. All this means that in the near future our manufacturers themselves will look with kindlier eyes upon the withdrawal of the protection they do not need, which in fact actually increases the cost of some of their raw materials, and incites foreign governments to retaliatory taxation upon goods imported from the United States. Our growing export trade will itself bring a wider appreciation of those fundamental principles which have led economists, with but few exceptions, to condemn protection as a permanent policy applicable to all stages of economic development.

At the World Economic Conference held under the auspices of the League of Nations in 1927, at which the United States was ably represented, a resolution was adopted announcing that "the time has come to put an end to the increase in tariffs and to move in the opposite direction." In accordance with this consensus of international opinion the League of Nations in 1929 took the initiative in calling an international conference for the conclusion of a tariff truce, and offered a draft convention [7] to serve as the basis of discussion at such a conference. There is real promise that in the near future a considerable number of important countries will agree among themselves not to increase protective tariff duties; and it is not impossible that eventually the agreement may go far beyond a mere tariff truce.

[7] *Series of League of Nations Publications* II. Economic and Financial, 1929, II, 45. Geneva, 1929.

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United States Tariff Commission. The publications of the Tariff Commission now constitute the most important source of information upon the details of tariff questions in the United States.

PART III

DISTRIBUTION

CHAPTER XX

DISTRIBUTION AS AN ECONOMIC PROBLEM

During the past century and a half the production of wealth has increased beyond all precedent, the chief factors contributing to this result being the factory system, the exploitation of vast natural resources and stores of mechanical energy (made possible only by modern methods of transport), and the free scope given to the initiative of the individual business man. Yet poverty still exists, and its harsh features are thrown into sharper relief by contrast with the fact that the present production of wealth *per capita* is indisputably the highest that the world has ever known. Moreover, while the social discontent arising from inequalities in the distribution of wealth is a very old thing, it is only in modern times that democracy has given it an adequate opportunity for formulated, organized expression. A large share of the economic problems which are felt to press upon society today for solution relate directly or indirectly to the distribution of wealth.

Distribution among Persons and among Productive Factors. — We have to discuss under the name "distribution" two different though related processes. The first and inclusive meaning of the term is the distribution of the wealth or income of society *among individuals and families;* in other words, the question of individual fortunes, poverty, and wealth. The second kind of distribution is the apportionment of the product *to the different factors of production.* This is not a question of wealth versus poverty, but of wages versus interest, profits, and rent. In the latter question the resultant facts are not so important as the reasons for the facts. We wish to know why interest, rent, and profits are paid; and to find out as much as possible about the economic forces which make them what they are, partly in order to reach some verdict about their fairness or necessity, and partly in order to direct or control them

with understanding and intelligence. For we must direct and control them, preferably not by political action, mainly indeed by individual action, but inevitably by that mixture of individual and group pressure which, in modern democratic society, is inescapable. It is in this way that distribution as an analysis of the productive process links up with distribution as a problem of poverty and of social equity.

It may be added that in Part III of this book, we do not use the word " distribution " to mean the moving of goods from the place where they are produced to the place where they are consumed. When we speak of railways or merchants as " distributive agencies," we are using the term " distribution " in a sense very different from that of the technical economic term " distribution." Distribution is a question of the ownership, not of the location, of goods.

Money Incomes. — Since most men today are working for money incomes in specialized employments, the fact is, as was suggested in a previous chapter, that distribution takes place through a process of price-making. Some men (manufacturers, merchants, farmers) make money incomes by selling goods for more than it costs them to produce them or to buy them from others, while other men (laborers, salaried employees, professional men, capitalists, landowners) get money incomes by selling their services or by selling the use of their capital or land. In the first case, the money income takes the form of profits; in the second case, it is wages, interest, or rent, as the case may be.

A man's *real income* consists of the commodities and services that satisfy his wants; and the extent to which his money income can be transmuted into real income depends on the prices he pays for these things. (He always has the option, of course, of investing part of his money income in production goods rather than in consumption goods, thus giving up part of his present real income for a larger future income.) Since different men have to pay about the same prices for the same kinds of goods, a discussion of the factors determining money incomes will be, *ipso facto*, a discussion of the principal factors determining real incomes.

It is important, however, not to allow sympathies and feelings properly aroused by the prevalence of poverty to confuse our

thinking about theories of wages, rent, interest, and profits. A reprehensible wage practice remains reprehensible although wage earners are very numerous and many of them poor. If profits are necessary, they are as necessary in coal mining as in farming. The question of economic rent has often been a subject of passionate discussion instead of being the object of scientific investigation. One of the most curious traits met with in economic thinking is the tendency to confuse abstract shares with personal types — profits with the profiteer, rent with the absentee landlord, wages with the poorer class of laborers.

It is obvious that one person may receive more than one kind of share. The American farmer who owns his land, buildings, farm machinery, and live stock, and who does part of his own work, is at the same time entrepreneur, landlord, capitalist, and laborer; and his income is made up of different proportions of profits, rent, interest, and wages. The net income of a tenant farmer, utilizing only borrowed capital, and employing only hired labor, would, on the other hand, consist entirely of profits. The income that any individual receives depends primarily upon his efficiency and success as a wage earner or as an entrepreneur, or upon the amount and the income-yielding capacity of the capital and land which he owns. His ownership of capital and land may have come about through the thrifty husbanding of portions of his income in previous years, or it may have come about through gifts or inheritance.

Diminishing Productivity. — To explain the price paid for personal services is to explain wages; to explain the prices paid for the use of land and the cost of using capital goods is to explain rent and interest. Certain special and distinguishing characteristics enter into the determination of each of these three classes of prices. The conditions governing the supply of labor are, for example, very different from the conditions governing the supply of land. Yet there are some fundamental characteristics which affect all three prices and are common to all three factors. The most important of these common characteristics is *diminishing productivity*.

This is essentially the same phenomenon described as " diminishing returns " in Chapter VII (pages 118–122), seen from the standpoint of each factor of production. Some writers use the terms

interchangeably, but in this book " diminishing productivity " is used in discussions of distribution while " diminishing returns " is used with particular reference to the increasing difficulties encountered in enlarging the total agricultural product if there is a pressure of growing population. Diminishing productivity plays so large a part in determining the distributive shares and one so peculiarly subject to misinterpretation that the analysis of its operation is carried out here in some detail.

Assume that a certain farm is cultivated by a farmer who uses only his own labor, together with a small amount of capital goods in the form of draft animals and agricultural implements. Assume further that his land is devoted exclusively to the growing of one crop, — corn, for instance. His money income will depend on the amount of corn he produces and the prices he gets for it. At given prices he can increase his income only by increasing his product.

But his *product* may be increased by the use of any one of a number of different methods. In the first place, he may hire a farm laborer to assist him. The two men, working together, will undoubtedly be able to get a larger product than one man could. In some cases they may be able to get double, or even, through the advantages of coöperation, more than double, what the farmer could produce working alone. More often, perhaps, employing the second man will not double the total product. However that may be, it is absolutely certain that if the farmer employs a third, a fourth, or even more men, he will sooner or later reach a point where he will find that employing the last man has not increased the product as much as it was increased by the last previous laborer. That is, the third man may not have increased the product so much as the second man did, or the fourth man may not have increased the product as much as the third man did.

This point is called *the point of diminishing productivity*, for after this point is once reached it will be found that, save under the most exceptional conditions, each successive additional laborer will increase the aggregate product by an amount less than the last previous laborer added to it. This is not because of any differences in the laborers, whom we assume to be of equal efficiency. It means simply that as the productive possibilities of the farm with its equip-

ment of capital goods become more fully exploited through more careful tillage, it requires increasingly greater efforts, in the form of still more careful and thorough tillage, to increase the product by a given amount. This is a fact of such common observation that it needs no statistical proof; although various agricultural experiment stations have made records of the effect of different degrees of thoroughness of cultivation upon the yield of different crops.

The Marginal Product of Labor. — One might imagine, at first thought, that after the point of diminishing productivity had been reached, it would not pay the farmer to hire additional laborers. But the only important question is whether an additional laborer will "earn his wages," — that is, *whether the product he adds will sell for enough to cover his wages.* It will pay the farmer to extend his employment of labor up to the point where the adding of another laborer to the working force would increase the product by an amount too small to sell for enough to pay his wages, and where dropping a laborer from the working force would decrease the product by an amount at least sufficient to pay the wages of the laborer. If the farmer stops short of this point, he is not making all the possible profits; if he goes beyond it, he is cutting down his profits by employing labor which does not "earn its wage."

The last laborer employed (not necessarily any particular laborer, nor the last in point of time, but merely any *one* laborer of the *total number employed*) is the *marginal laborer*, and the increase in the total product attributable to the marginal laborer (the part which would be lost if one less laborer were employed) is the *marginal product of labor*. If the farmer has estimated product and prices accurately, it will be found, of course, that the money value of the marginal product of labor will be approximately equal to the wages of the marginal laborer. Or, since the laborers are supposed to be of equal efficiency, and hence to receive uniform wages, the statement may be put in the broader form that *wages and the marginal product of labor will tend to equal each other.*

The diagrams illustrate the principle of the diminishng productivity of labor, developed in the foregoing analysis. In Figure 1 the rectangle *OM* represents the amount of corn that the farmer could raise on his land if working alone, with his given equipment

of capital goods. The rectangle *AN* represents the product another worker adds. Similarly, *BP*, *CQ*, *DR*, and *ES* represent respectively the additions to the product got by employing a third,

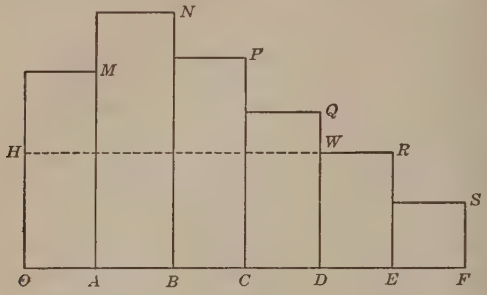

FIG. 1

fourth, fifth, and sixth laborer. If *DR* bushels of corn — the increment of product attributable to the fifth laborer — sell for about enough to pay the wages of one laborer, the farmer will refuse to employ the sixth laborer, while the employment of the fifth would be a matter of indifference. If the fifth laborer were employed, the proceeds of the sale of that part of the total product represented by

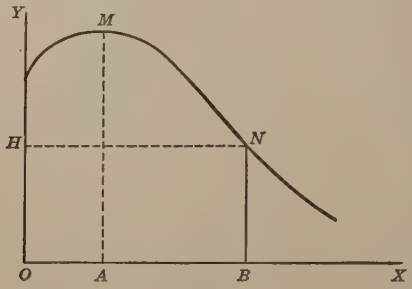

FIG. 2

the rectangle *OERH* would be used up in the payment of wages (including payment for the farmer's own work as a laborer), while

the part of the product represented by the small rectangles above the line *HW* would be left to recompense the farmer for the use of his land, and for the interest on his investments and for the wear and tear of his capital goods. Any surplus left after these demands are satisfied would go to the farmer as profits. If the conditions were as assumed, the fifth laborer would be the marginal laborer, and the product represented by the rectangle *DR* would be the marginal product of labor.

If we were dealing with a very large undertaking, in which many laborers are employed, the successive rectangles representing the increments in the product attributed to the hypothetical addition of successive laborers could be conceived as indefinitely narrow, so that the diagram would take the form represented in Figure 2, where the line *AM* is located at the point of diminishing productivity, and where the line *BN* represents the marginal product of labor. In this case the rectangle *OBNH* represents the part of the total product which will just suffice to pay the wages of all the laborers employed.

The Marginal Products of Capital and Land. — Thus far we have supposed that the farmer is content to get along with his original amount of land and his original supply of capital goods, and to increase his product by means of an increased use of labor. Other possibilities are, of course, open to him. He might be content to do without additional laborers, using instead an increased equipment of capital goods. By purchasing more draft animals, more labor-saving machinery, improved fertilizers, or possibly by installing drains or irrigation ditches as the case may be, he may be able to raise considerably more corn than he could without such investments. But here, again, he will find the possibility of increasing his product subject to the same limitations that would have prevailed had he increased his labor force. With a team of horses he will be able to accomplish more than he could with one horse; two teams of horses may still further increase the total product of the farm; a third would probably be of very little advantage, and a fourth team still less useful. So with investments of capital in other forms: diminishing productivity is a remorseless physical fact with which the farmer has to reckon.

The concrete form in which the problem presents itself to him is this: Will a further investment of money in a specific kind of capital goods pay me? Here the farmer has to make on the one hand the best estimate he can of the amount which the proposed capital goods will add to his annual product, and of the probable selling value of the increased product. On the other hand, he has to count his increased annual expenses. These will include (1) the original cost of the additional equipment, divided into annual costs according to its probable durability (each year's cost being properly only the wear and tear, or depreciation attributable to that year's use); (2) the maintenance or upkeep (including such things as ordinary repairs on machinery and the cost of feeding horses), and (3) the interest on the investment (what the farmer has to pay if he borrows the necessary funds from some one else, or what he might have lent his money for to some one else if he uses his own funds). Guided by these estimates, the farmer will naturally increase his equipment of capital goods so far as the returns from the added product will more than suffice to cover his increased costs. Beyond this point he could not wisely go. The last increment of capital goods — which just suffices to pay for itself — is the *marginal increment*, and the added product attributable to it is the *marginal product of capital goods*. The law of diminishing productivity holds for each specific kind of capital goods used by the farmer. He will normally make use of each kind of capital goods up to the marginal point. The same is true for each kind of labor or each specific use of labor.

The diagrams portraying the operation of the law of the diminishing productivity of labor will serve as well to illustrate the diminishing productivity of capital goods. Assuming that the amount of land and the amount of labor to be utilized are definite in quantity, the successive rectangles in Figure 1 represent the increase in the gross product attributable to each of successive increments of capital goods. Figure 2 represents the same conditions, except that each increment of capital goods is assumed to be indefinitely small.

If (in Figure 2) BN represents the marginal product of capital goods, the whole return imputed to the investment in capital goods

is, of course, represented by the rectangle *OBNH*. The area above the line *HN* represents the part of the product which is available for rent and wages, the farmer's profits being derived from any surplus that is left after these demands are satisfied.

A third way of increasing his product is also open to the farmer. He may think it wiser to get along with his original equipment of capital goods and his own labor, and to increase his product by utilizing more land. This procedure would mean a less intensive cultivation per acre of land. The use of labor and capital would have to be distributed more thinly over the larger acreage. This would result in a smaller product *per acre*, but would be warranted if the increase in the annual product should sell for more than the annual cost of the additional acreage. (By the annual cost of additional land we mean the rent which the farmer has to pay for the land if he leases it, or the interest on the amount of the purchase price, if he buys it.) It is obvious, however, that the combination of more and more land with a fixed amount of labor and of capital goods will result in a smaller and smaller return per acre of land, and that a point will soon be reached beyond which it will not pay the farmer to go. In other words, *the law of diminishing productivity rules when land is considered as the variable factor*, just as it does when labor or capital is considered as the variable.

The diagrams already used may be adapted to the illustration of the present hypothesis by assuming that equal areas, if successively combined with a given amount of labor and capital goods, would yield increments of product as represented by the successive rectangles in Figure 1, or by the curve in Figure 2. It is assumed for the sake of simplicity in the illustration that the different acres of land available for the farmer's use are of equal fertility.

The Actual Operation of Diminishing Productivity. — It has been assumed thus far that the farmer of our illustration has to be content with a fixed quantity of two of the three factors in production, but that he is at liberty to increase his use of the third factor up to the point where maximum profits will be gained for himself. Assuming in turn that each of the three factors in production was the variable one, we found that in each case the law was the same — the most advantageous adjustment was reached when the product

added by the last increment of the variable factor would sell for just enough [1] to cover the increased expense.

In one way, however, this assumption does not correspond with the facts. The farmer is at liberty to increase his product by increasing his utilization, not only of any one, but of any two, or of all the three, factors of production. He may, for example, purchase more draft animals and more machinery, employ more labor, and at the same time acquire more land. To a certain extent the use of one factor may lessen the use of another (as in the case of labor-saving machinery and labor). More often, however, the reverse is true. The acquisition of machinery may make it necessary to use more horses, while the acquisition of more land will often make profitable the use of more labor as well as more capital — a fact which is itself implied in the law of diminishing productivity. Although the employment of labor, capital goods, and land may thus be increased simultaneously, the significance of the law of diminishing productivity is in no wise diminished. The farmer, in deciding upon the purchase of a particular kind of capital good, has to take into account his present and, to some extent, even his probable future supply of other kinds of capital goods, as well as of land and labor, before he can form a judgment as to the amount which the use of the particular capital good will add to his annual product. Moreover, he has to choose between additional investments in labor as against additional investments in land, or additional investments in different kinds of capital goods. But his effort to get maximum profits will lead him to make those investments which promise to result in the greatest additions to his product. The result of this will be, normally, that each factor in production will be utilized up to the marginal point — the point where further utilization would add a product so small as to sell for less than the increased expenses.

Not only in agriculture is the law of diminishing productivity fundamental in determining the proportions in which the factors of production are combined. Every manufacturer has the option of using either relatively more machinery and relatively less labor or relatively less machinery and relatively more labor in order to pro-

[1] Whether this last unit, which just pays for itself, will be added, is of course a matter of indifference. The margin is sometimes called the "margin of indifference."

duce a certain quantity of goods. He may have to decide, also, between building a six-story factory covering an acre of ground, and a one-story factory covering six acres of ground — a problem which is paralleled by the farmer's problem of deciding between the cultivation of a relatively large acreage and the more intensive cultivation of a smaller acreage. It does not pay to erect twenty-story business buildings in small towns or one-story structures in the heart of a great city. The entrepreneur in every kind of undertaking has to decide as to the advisability of a particular investment in land, capital goods, or labor, with reference to the fundamental question, "Will it pay?" And the profitableness of any such investment is always a matter of the cost of the unit of land, labor, or capital good, as compared with the selling value of the quantity it will add to the entrepreneur's total product.

In order to achieve maximum profits, each entrepreneur will endeavor, so far as is practicable, to apportion his use of different classes of productive agents so that the value of the increment of product attributable to the marginal unit of each class will about equal its expense.

In any business undertaking, the one thing always given or fixed (at any one time) is the general object of the undertaking, the productive or acquisitive plan of the entrepreneur. In carrying out his plans, in securing a product and a market for it, the entrepreneur has to utilize productive agents. In combining them, in applying them to his general profit-seeking plan, he encounters diminishing productivity, and, normally, pushes each particular kind of expenditure up to the marginal point. If he is successful he will secure a surplus over and above his aggregate expenses. That is, his total product will more than cover the "specific products" that must be imputed to the various productive agents he uses. This surplus is the source of profits.

The Relation of Marginal Products to Distributive Shares. — The significance of the principle of diminishing productivity in relation to the distribution of wealth now becomes apparent. If the laborers in a given employment receive equal wages, their wages (being the same as the wages of the marginal laborer) will tend to equal the marginal product of labor. The expense incurred by the entrepreneur for any unit of a certain kind of capital goods will tend

to equal the value of the marginal product of that particular kind of capital goods. The rent which the farmer will pay for any acre of a quantity of land of uniform quality will tend to equal the value of the marginal product of land of that quality. But so far as competition works freely, different entrepreneurs in the same market will have to pay the same wages for the same kind of labor, the same price for the same kind of capital goods, and the same rent for the same kind of land; and they will get the same prices for the same kinds of products. Moreover, *any one unit* of the aggregate amount of a productive agent of any one kind employed at any one time may be deemed to be the marginal unit. So it is possible to state in more general terms that the money remuneration of each specific unit of the agents of production in production tends to equal the selling value of the amount of product *dependent upon* the use of that unit.

It is not necessary for the validity of this marginal productivity theory of distribution, that in any particular undertaking at any given time the proportions in which the factors of production are actually combined should be adjusted with the nicety which the theory seems to imply. The amount of land which the farmer holds at any one time is apt to be fixed by his estimate of his future rather than of his present production, while custom, pride of ownership, and the hope of gain through an increase in land values have their influence. In a similar way the manufacturer builds his factory for the future, and may even equip it with a larger complement of some kinds of machines (such as boilers and engines) than present requirements justify. On the other hand, a sudden and probably temporary increase in demand for a product will be met by the manufacturers by the employment of more labor (even at the high rate paid for overtime or night work) rather than by the installation of more labor-saving machinery, even though the latter might, in the long run, be more economical.

These limitations do not invalidate the law of the equality of the remuneration of the agents in production and the prices of their specific products any more than the fact that a feather does not fall through the atmosphere as rapidly as a stone invalidates the law of gravitation. This law, like other economic laws, is the statement

of a fundamental tendency, which, in this case, is bound up with the universal desire of entrepreneurs to get for themselves the largest possible profits.

Marginal Productivity and the Prices of Production Goods. — The reader who has firmly grasped the concept of marginal utility will find that a recognition of some similarities in the rôles which marginal utility and marginal productivity play in the price process will help him to grasp the significance of the latter concept. Just as we cannot speak of the utility of a commodity in the abstract, but only of the utility of particular concrete units of a commodity, so we cannot speak of the productivity of land, labor, or capital goods in general, but only of the productivity of particular concrete units of land, labor, and capital goods. The consumer is getting the maximum of satisfaction of his wants when the final dollar spent for one commodity satisfies just as intense wants as the final dollar spent for any other commodity, and he tends to apportion his expenditures accordingly. The entrepreneur is not making maximum gains if his final expenditure for any one kind of productive agent adds more to his product than his final expenditure (of equal amount) for any other productive agent, and he tends to apportion his employment of land and of different classes of labor and capital goods accordingly.

But it must not be supposed that the statement that the prices paid for land, labor, and capital goods tend to equal the value of their marginal products is a complete explanation of the values put upon the services of the factors in production any more than the principle of marginal utility is a complete explanation of the prices paid for consumption goods. In fact, from one point of view, marginal productivity itself depends upon the prices which the entrepreneur has to pay for the services of the factors in production. The prices of productive services are like the prices of vendible commodities in that each buyer (entrepreneur) and each seller has to buy and sell at prices which, being established by the aggregate demand and supply of the market, are beyond his own control. Yet this aggregate demand and supply is the net result of the decisions made by individual buyers and sellers with respect to the amounts which they will buy or sell at one price or another.

The demand for the use of land, labor, and capital goods is ultimately a demand for their products — the goods that satisfy human wants. The entrepreneur's task is to anticipate and meet this demand — a problem that takes the concrete form of producing goods that will sell for more than the expense of production. On the one hand he has to estimate the quantities he can sell at certain prices; on the other hand, he has to take account of the quantities which various units of land, labor, and capital goods will contribute to his product, together with the prices (rent, wages, cost of capital goods, and interest) that he has to pay for these units. Through his mediation the demand of society for want-satisfying goods becomes a demand for the services of certain quantities of land, labor, and capital, combined in certain proportions. And the principle that guides the entrepreneur's transformation of the community's demand for the products of land, labor, and capital into his own demand for the services of these factors in production is the principle of marginal productivity. The wages, rent, and interest that are actually paid for the services of the factors in production are the resultants of the demand of entrepreneurs, on the one hand, and of the supply of these factors on the other hand. The forces determining these prices are *focused* at the margin. The principle of marginal productivity is thus an illuminating way of stating the problem of the distribution of wealth, rather than a solution of it. Just how supply and demand operate in the case of each factor in production is a topic to be considered in later chapters.

The Meaning of "Productivity." — It is necessary to define clearly the technical meaning of productivity both to appreciate the great importance of marginal productivity and to avoid exaggerating its importance. Productivity is not a physical phenomenon or force such as electricity or steam. *It is imputed* to the factors of production much as marginal utility is imputed to economic goods. "Productivity" is in the mind of the entrepreneur, but it is none the less real and it controls the remuneration or price which the factor of production will receive in actual life.

The distinction between physical and imputed or marginal productivity may be illustrated by reference to *free production* goods.

Nature furnishes some of these. The oceans and lakes provide free pathways for commerce; natural forces of all kinds are freely utilized by men in the work of production. But we do not call these things productive, *because no part of the annual product depends on the utilizing of any one particular unit of them.* In this purely technical sense the wind is not productive, but windmills are. In order to utilize the ocean we have to invest money in vessels and docks. We have to impute productivity to these things because they will not be furnished unless it is estimated that they will yield a remunerative income, and because the annual product will obviously be reduced if they are not furnished.

Somewhat analogous to these "free productive goods" is society's fund of accumulated knowledge of productive methods, — the heritage of centuries of economic evolution. This accumulated industrial experience is an infinitely more precious possession than the existing store of productive goods. Compare the productive possibilities of a community of men possessing this knowledge, but forced to begin work absolutely without a ready-made stock of capital goods, with those of a tribe of savages suddenly and miraculously equipped with all the productive appliances of modern civilization. Yet this vast fund of productive knowledge, so far as it is common property, is not thought of as "productive." The social dividend is continually being increased as a result of the discovery of new natural forces, or new ways of harnessing and utilizing natural forces. Secrecy or government patents make it possible for those who first introduce these new methods of production to reap an income from the temporary advantage it gives them as producers. For the time being these new methods themselves have to be regarded as "productive," although they contribute much more to the increase of the social dividend after they have become matters of common knowledge and use, and hence have ceased to be called "productive." Disinterested scientists, especially those in the employment of the government or of universities, have often given the results of their improvements in industrial methods freely to the world, thereby swelling the social dividend, but not reaping for themselves the pecuniary reward which goes to those who patent their improvements and thereby render them "productive."

Moreover, many of the world's greatest advances in the technique of production have been made possible only by the patient researches of investigators in the "unproductive" field of pure science, working solely for love of the work, and without hope of pecuniary reward.[2]

We impute productivity only to goods or services which are the objects of property rights or of analogous rights of control, — such as a man's power to dispose of his own labor. We harness natural forces for the work of production, but we impute productivity only to the harness. We continually learn better and better methods of doing our productive work, but we impute productivity only to the expenses involved in utilizing these methods, — not to the methods themselves. *Productivity implies merely a relation of dependency between the amount of the product and the use of a particular unit of one of the agents in production.* It is, in short, merely a special case of "cause and effect." A cause, in science, is merely an element whose presence is *indispensable* to a certain result. There are always coöperating "causes," just as there are always coöperating productive agents.

It is important that the reader should see the truth in the statement that the laborer, the landlord, and the capitalist get paid in proportion to their respective products. It is equally important that he should see clearly that there are definite limitations to the meaning and significance of the statement. In particular the statement that rewards tend to equal products has no ethical significance and should not be interpreted as a justification of the present economic order. There are many reasons for this conclusion. (1) The marginal product of the laborer, for instance, depends as much or more upon the technical efficiency of the other factors as it does upon the skill and industry of the laborer himself. Working with first-class machinery the marginal laborer might be able to add 2 X units to the previous product, but working with the machinery actually provided he is only able to add X units. The powerful textile unions of Great Britain have for years insisted

[2] See a note on this point in Merz, *History of European Thought in the Nineteenth Century* (William Blackwood and Sons, London, 1904), Vol. I, p. 92, note. The list there given could be greatly extended.

that the best and latest machinery be employed for the very reason that the marginal productivity of labor depends upon the technical efficiency of the entrepreneur and the capital goods employed as well as upon the efficiency of the laborer himself.

(2) The doctrine that rewards tend to equal products does not mean that each factor earns the share which it receives. To state that the rent of an acre of land tends to equal the value of its product is not to say that a particular landowner has "earned his income." He may have inherited the land or acquired it by fraud. (3) The efficiency of the individual laborer is one of the things determining his productivity. His efficiency may depend largely upon the opportunity to "make the most of himself." But opportunity depends largely upon environment and this in turn is to a large extent amenable to social control. (4) The doctrine is only a statement of a normal tendency. It does not, properly understood, conflict with the fact that such things as custom and other forms of economic friction and inertia, the higgling of the market, the conscious efforts of social classes to better their condition, imperfections in the monetary system, short-sighted selfishness on the one hand, altruism on the other, as well as the conscious social control expressed in labor legislation, usury laws, and the like, all have important effects upon the incomes actually received by those who furnish labor, capital, and land for the work of production.

Marginal Productivity and the Entrepreneur. — The doctrine of marginal productivity applies to the entrepreneur in so far as he provides land, capital, or labor. Indeed the doctrine depends, perhaps to a larger extent than is usually thought, upon the idea of the "exhaustibility" of the entrepreneur, that is to say, his limited power to manage larger and larger business units. After a certain point is reached the marginal productivity of the entrepreneur as a captain of industry begins to decline, just as the marginal productivity of the land and capital goods which he supplies begins to decline if worked too intensively.

As explained in Chapter XXIV, profits must, in the long run, cover normal rent, interest, and wages of superintendence. So far as the entrepreneur's return consists of these elements it is obviously subject to the law of diminishing productivity.

But in addition to rent, interest, and wages of superintendence, profits also include an additional element called "pure profits." The relation between pure profits and diminishing productivity is not altogether clear. The reason for this obscurity is probably found in the fact that pure profits, are, normally and on the average, zero. In the long run the entrepreneur only gets normal interest, rent, and wages. In any given decade the pure profits of entrepreneurs in, for instance, banking or the automobile industry may be very large; they have, in fact, been large since 1920. But during the same period the pure profits of, for instance, farmers, textile manufacturers, and producers of bituminous coal may be less than nothing; as in fact they have been in the United States since 1920. Unfortunately, our statistical resources are not sufficient either to prove or disprove the hypothesis that pure profits in the long run amount to nothing.

Social Aspects of Diminishing Productivity. — Perhaps the deepest truth in the theory under consideration lies in the emphasis it places upon the interdependence of the various distributive shares. The marginal productivity of each factor is intimately dependent upon the technical efficiency and the plentifulness or scarcity of the other factors. Other things being equal any share such as wages varies directly with the technical efficiency and plentifulness or scarcity of the other factors. This conclusion applies particularly to the real, as distinguished from the money, income of each factor.

If the number of laborers within the boundaries of a nation is increased by immigration, without a corresponding increase in capital or in the amount of land available for use, the result will be an increase in the total amount of goods produced, which means an increase in the amount of wealth produced per unit of land and capital, but (on account of the operation of the law of diminishing productivity) a decreased amount per laborer; a higher marginal product for land and capital, and a lower marginal product for labor; consequently, higher rent and higher interest, but lower wages. If the supply of capital within a country is increased, while labor and land remain constant, the result will be higher wages and higher rents, but a smaller remuneration for capital.

In a very real sense the same laborer is more productive in a

country where land is relatively plentiful than in a country where land is relatively scarce. A laborer may gain no technical efficiency by migrating from Europe to America, but the increment of product attributable to his work is likely to be considerably larger in the United States than it was in Europe. Here he really creates a larger product and earns a larger wage. The migrations of labor and capital from one region to another, or from one country to another, are guided by the endeavors of capitalists and laborers to get the maximum remuneration, — which will always be found where the price of the marginal product of capital or labor is a maximum.

In a prosperous country it is likely to be the case that the supply of labor and the supply of capital are being increased simultaneously, though not necessarily with equal rapidity, while more land is at the same time being made available through improvements in transport. In general, the law of diminishing productivity will necessitate a continual increase in the proportion of the product set aside for the remuneration of each unit of the most slowly increasing factor in production; while, of the other two factors, the one that increases more rapidly will receive, per unit, a relatively smaller and smaller proportion of the value of the total product.

Just as labor secures a larger product where land is relatively plentiful (and where the supply of capital is adequate), so land of a given grade produces more *per acre* in a densely populated country, for the reason that it pays to cultivate it more intensively, — to use relatively more labor and relatively less land. On the farms of many European countries more wheat is produced per acre than on American farms. This does not necessarily mean that American agriculture is inefficient, for on American farms the product *per man* is, in general, larger than in Europe.

In manufacturing industries the facts are similar. Some years ago a British publicist drew upon the censuses of manufactures of his country and of the United States to show the relative inefficiency of British industries. Some of the statistics he used are summarized in the table below (page 412).

These figures and others like them, he held, "all confirm the fact that the average American worker does about three times as much

COMPARISON OF TWENTY-SIX INDUSTRIES IN THE UNITED STATES AND THE UNITED KINGDOM

	UNITED STATES (1909)	UNITED KINGDOM (1907)
Number of workers	1,983,000	1,700,000
Horse power used	4,779,000	2,009,000
Horse power per thousand workers	2,400	1,200
Gross output per worker per year	$8,735	$3,100
Net output per worker per week	$29	$11

productive work as the average Englishman." English industries, the writer accordingly concluded, are by comparison grossly inefficient, because English entrepreneurs have lagged behind in the use of labor-saving machinery and of mechanical power. But this conclusion cannot properly be drawn from the figures cited. The statistics merely indicate that the underlying conditions that determine the structure of industries are very different in the United States and in England, and in particular that labor is relatively scarce and high-priced in the United States. Possibly the machinery and American environment, rather than the American worker, must be credited with the larger net output.

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CHAPTER XXI

THE WAGES OF LABOR

WAGES are the prices paid for the services of labor. Under "labor" we include all the various kinds of personal services for which a payment is made. Thus professional men and salaried employees are wage earners, though in common usage the term is restricted to manual laborers working for daily or weekly payments. There is, however, as every one recognizes, a "laboring class," marked off by lines that are fairly distinct, and including the great body of day laborers, factory hands, agricultural laborers, men in various trades requiring various degrees of intelligence and skill, employees in minor positions in business and mercantile establishments, and the like. Some of the most important and pressing of present-day economic problems — the variety of things that, taken together, make up the "labor problem" — relate to the economic position of this class. It is important, therefore, to ascertain the rules that determine its share in the national dividend. In the discussion of wages, then, we have in mind primarily the income of the "laboring class," although most of the principles that will be developed apply just as accurately to the other incomes that must be classed as wages.

Wages as the Price of Labor. — The definition of wages already given suggests at once the most important fact about them: they are the prices paid for particular kinds of services, and hence come under the general laws of supply and demand. So far as the wages of any one kind of labor are concerned, we may say, as we did of the prices of commodities, that they will tend to be fixed at the point where the supply of that kind of labor and the demand for it are in equilibrium. But, as was found in the discussion of the prices of commodities, this simple statement does not take us very

far into the analysis of the problem. We want to know why the supply of labor and the demand for it are what they are. We shall find, too, that the factors governing the supply and demand of labor are in some respects very different from those governing the supply and demand of commodities.

The Demand for Labor. — The demand for labor is, in the last analysis, a demand for the *products* of labor. One man's labor does not command a price on its own account, but because it aids in the production of things that satisfy the wants of others. But how can we measure the product of labor? How can we distinguish it from the part of the total product that is attributable to land and capital? We cannot say that the product of labor is to be measured by the difference between the total product produced by the coöperation of labor, land, and capital and the product which would be produced by land and capital working alone; for this last would, of course, be zero. The fact is, as we have seen in the preceding chapter, that the proportion of the product that is attributed to labor is determined by the principle of *marginal productivity*.

Marginal productivity is an imputed quantity. Wages tend to equal the discounted marginal product of the laborer. The marginal product is discounted because the employer must ordinarily pay wages before he sells his product; and he will therefore make some interest charge for the advance. Although the wage is estimated and discounted, it is definitely and specifically the amount, so far as it can be determined, by which the total product would be reduced if the labor of that particular laborer were not utilized. The demand for the products of labor, upon which the entrepreneur's demand for labor is based, is not a demand for any vague abstraction like the "product of labor in general," but is a demand for the concrete products due to the activities of individual laborers.

We must note also that in the case of labor, as in the case of commodities, the word "demand" must not be taken in a loose, indefinite sense. The demand for commodities means the quantities that will be taken at certain definite prices. The demand for labor does not mean anything unless it is understood to refer to the num-

ber of laborers that will be employed in particular occupations at certain wages.

In a given occupation at a particular time wages might be fixed at any one of a large number of different possible points. The higher the wage, the smaller will be the number of laborers that an entrepreneur can afford to employ. (1) Higher wages mean higher expenses of production, and consequently higher prices will have to be charged for the product — a fact which will reduce the quantity of the product that can be sold on the market, and consequently reduce the demand for labor. (2) Higher wages will compel entrepreneurs to economize in the use of labor, and to use relatively more land and capital, according to the principles which have been explained in the discussion of diminishing productivity. The demand for any particular kind of labor is thus influenced by variations (1) in the demand for the products of that particular kind of labor, and (2) in the proportion of the product attributable to labor rather than to land and capital.

The Marginal Productivity Theory of Wages. — A bold attempt to measure the marginal productivity of labor and capital on the basis of the statistics of (physical) production and wages in manufacturing industries between 1899 and 1922 has been made by Paul H. Douglas and Charles W. Cobb.[1] According to the basic computations of the authors, the relative growth of capital during this period was from 100 to 431; of labor from 100 to 161; of the physical product of manufactures from 100 to 240. The growth of product was nearer that of labor than of capital; and the authors conclude that for the period in question labor exerted three times as much influence on the manufactured product as capital; that a small percentage change in labor had three times the effect on the product that would be made by the same percentage change in capital alone; and that (ignoring an unimportant constant), the influence upon the product (P) of the two factors labor (L) and capital (C) could be accurately represented by the equation $P = L^{\frac{3}{4}} C^{\frac{1}{4}}$.

In a sympathetic and constructive criticism of this attempt to

[1] "A Theory of Production," *The American Economic Review*, Supplement, March, 1928, pp. 139–165.

begin the statistical verification of the marginal productivity theory, Professor J. M. Clark [2] points out that (*a*) the relative influence of capital is understated in this formula because labor is measured on the basis of man-years instead of man-hours; (*b*) that land must be taken into account since it has a marginal product and a marginal efficiency, and as capital increases both labor and land receive the so-called "unearned increment"; (*c*) that the formula $P = L^{\frac{3}{4}} C^{\frac{1}{4}}$ is adapted to the long-time trend, while the short-run or cyclical fluctuations follow a different law; and (*d*) that some allowance must be made for inventions or technical progress. Making corrections for some of these omissions, he concludes that the most plausible or reasonable hypothesis would attribute approximately 60 per cent of the product to labor and 40 per cent to capital, or $P = L^{\cdot 6} C^{\cdot 4}$ for the period and industries in question.

An attempt was made by Professor Douglas, in the study noted above, to ascertain the *value product* of labor for the years under discussion, and to verify the distributive process by comparing the movement of this value product with the movement of real wages. He found "a decided tendency for distribution to follow the laws of imputed productivity," although the statistical correlation here is not so striking as in the case of the law of productivity itself.

It cannot be concluded that the marginal productivity theory of wages or production has been confirmed statistically. The statistical basis of the above tests is highly defective in parts; and it may never be possible to test the theory adequately by statistics. In final analysis its chief basis is found in business competition. If entrepreneurs wish to make money, as they do; if they compete for the services of efficient laborers, as they do; how is it possible that wages shall do other than approximate the present worth of the imputed marginal product of labor? If wages are more than that, over a period of years, then entrepreneurs must lose money in the long run. If wages are less, then entrepreneurs must normally overlook a recurrent opportunity to make more profits by employing additional labor and expanding their business.

[2] "Inductive Evidence on Marginal Efficiency," *The American Economic Review*, Vol. XVIII (September, 1928), pp. 449–467.

Machinery and the Demand for Labor. — The *elasticity* of the demand for any kind of labor — the *extent* to which variations in wages will affect the quantity of labor utilized — is a complex function, being affected not only by the elasticity of the demand for the particular products produced by this kind of labor, but also by the readiness with which more capital or more land, or both, can be substituted for labor, as labor becomes higher priced. In the printing industry, for example, a rise in wages would make it profitable for employing printers to use more labor-saving machinery, such as typesetting machines, automatic press feeders, and the like. The higher the wages of agricultural laborers, the more profitable will be the more extensive, as compared with the more intensive, uses of land. On the other hand, the reader will at once think of many trades, such as plumbing, where machinery cannot easily be substituted for hand labor, and where, consequently, the only elastic element in the demand for labor lies in the elasticity of the demand for its products.

Quite another problem, and one of great social importance, relates to the way in which the demand for labor is affected by new inventions and by the introduction of new machine processes. Laborers themselves have often looked at such innovations with hostility. When machinery first began to be used extensively in the woolen industry in England, their opposition was expressed in riots in which the new machines were destroyed, as well as in " proposals to impose legislative restrictions on the use of machines, so as to bring them to a level with hand work, and prevent them from doing the work more quickly or more cheaply than it could be done by hand." [3] Laborers still are often inclined to view the introduction of labor-saving machinery as an economic injury to themselves. It is sometimes held that this attitude on the part of laborers is shortsighted, since the inevitable result of machine production is to cheapen the prices of products and thus to lower the cost of living, the net result being an increase in *real wages*, as contrasted with nominal or money wages.

This view emphasizes an important truth, and yet it misses the

[3] Cunningham and McArthur, *English Industrial History* (The Macmillan Co., New York, 1895), p. 226.

real point of the laborers' grievance. It is true that while the first result of improved methods of production is often to bring larger profits to those who introduce them (especially if the new methods are protected by patents), their benefits are ultimately diffused throughout society at large in the form of the fuller and better satisfaction of wants; and wage earners, as members of society, share in these general advantages. But it is equally true that hardship to many individual laborers is often an *immediate result* of the introduction of labor-saving machinery. Especially is this true in the case of skilled workmen in highly specialized employments, who sometimes find themselves suddenly deprived of the advantages of their skill, — gained often by long years of apprenticeship. To expect that such men will feel that they are compensated by the advantages ultimately accruing to laborers as a class, is to ask too much of the altruistic elements in human nature. Workmen have learned, however, from the experience of the past century and a half, that the introduction of machinery is inevitable, and in the better-organized trades they are in many cases pursuing the wiser course of trying to regulate the introduction of new kinds of labor-saving machinery in such a way as to diminish the hardships inflicted on individuals. Thus, when the linotype machine began to displace hand compositors in the printing trade, the typographical union was able to secure the retention of many hand compositors as linotype operators, together with a reduction in the length of the working day.

The effect of the introduction of machinery upon the demand for labor varies in different industries, the most important variable factor being the *elasticity* of the demand for the products of the particular trade affected. In the case of the linotype, the smaller cost of composition made it possible for newspapers greatly to increase their reading matter, so that the actual reduction in the number of employees was small compared with what might have been expected. The introduction of machine methods into the English textile industry during the period of the Industrial Revolution furnishes an instructive example. The change in the methods of manufacturing cotton cloth came just as the invention of the cotton gin had greatly increased and cheapened the supply of raw

material. This, coupled with the reduction in manufacturing costs, so cheapened cotton cloth (which had previously been very expensive) that its use was largely increased. In fact, many more persons were employed in spinning and weaving cotton soon after the Industrial Revolution than immediately before it. In the woolen industry, however, there was no such immediate increase in the sale of the product, so that many workers were displaced, and had to seek occupations where their specialized skill was of no avail. Especially when the occupation affected is a highly specialized but relatively unimportant one in a series of processes comprised in the manufacture of a product, the wage-earning power of the displaced laborers is likely to be seriously diminished.

The displacement of labor by machinery has ceased to be a sporadic or occasional episode in American industry. A new concept of research and invention has seized the minds of American business leaders. Technological progress is pursued steadily and systematically. The result has been an increase, in the last few years, of 4 per cent a year in the per-man output of American manufacturing, and a new problem of "technological unemployment" has arisen. Manufacturers had 825,000 fewer employees in 1927 than in 1920 and during that period about the same number had left the farms for non-agricultural pursuits. Fortunately, technical progress alleviates, to some extent, the displacement of labor in particular industries by causing expansion in other industries; and it is estimated that less than one third of the employees displaced in manufactures were still unemployed in 1927. Nevertheless, the suffering caused to many individuals is intense and humanitarians are right in urging that serious attention should be given to remedies calculated to alleviate the distress involved in technological unemployment. The younger people are generally able to make readjustment; not so readily are the middle aged and older workers able to get a new foothold or opportunities equal to those lost. It does not help the individual sufferers to talk about what is going to happen in the long run; for as it has been aptly said man's life is but "a short run."

Some of the net results of "technological progress" in recent years are shown in Table XXII. The figures represent *annual*

change per cent during the periods specified. The period 1902–1907 has been included because in length and rapid industrial growth it is particularly comparable with the period 1922–1927.

TABLE XXII

COST OF LIVING AND EARNINGS OF LABOR AVERAGE ANNUAL RATE OF CHANGE DURING THE PERIODS 1896–1913; 1902–1907; 1922–1927 [1]

	AVERAGE ANNUAL RATE OF CHANGE		
	1896–1913	1902–1907	1922–1927
	Per Cent	Per Cent	Per Cent
Cost of living	+ 1.9	+ 2.1	+ 0.7
Money earnings — all groups	+ 2.4	+ 2.4	+ 2.8
Money earnings — manufacturing industries	+ 2.0	+ 1.9	+ 2.4
Purchasing power of earnings — all groups	+ 0.5	+ 0.3	+ 2.1
Purchasing power of manufacturing industries	+ 0.1	− 0.2	+ 1.7

The Supply of Labor. — It is when we fix our attention upon the nature of the supply of labor that differences between the way in which wages are determined and the way in which the prices of commodities are determined become most noticeable.

In the first place, if we view industry in general, we notice that in the case of labor there cannot be much difference between the actual supply and what we called, when discussing commodity prices, the "potential supply." Labor is in this particular like the most perishable of commodities: the number of working days in a man's life is limited, and those that are not sold are irrevocably gone. The laborer has, it is true, some power in the way of "holding out for higher wages," but even this power is limited rather narrowly by the absolute necessity of making a livelihood. In the long run small wages are better than none. The sale of labor is often a forced sale.

In the second place, the fact that labor is inseparable from the person of the laborer has important results. When the laborer enters into an agreement to work for wages, he not only sells his

[1] From F. C. Mills, "Price Movements and Related Industrial Changes," President's Conference on Unemployment. Report of the Committee on *Recent Economic Changes* (The McGraw-Hill Book Co., New York, 1929), Vol. II, pp. 625–645.

labor, but he gives up a certain amount of control over his own life; he agrees to live and work under conditions — often unpleasant ones — set for him by others; he accepts, in short, all the environment of his task, as well as the task itself.

Connected to some extent with this last fact is a third difference — the relative immobility of labor. Commodities may always be sent to the market where they will command the best price, but the laborer is restrained by family ties, patriotism, differences in language, customs, and religion, ignorance, and the like. The result is that variations in wages as between different countries or as between different localities in the same country are much greater than similar variations in prices.

The Relation of the Structure of the Population to the Supply of Labor. — We are prone to take it for granted that the supply of labor in different countries and localities depends primarily on the numbers of the population. This is, of course, fundamentally true, but we must also note that the *structure* of the population is a variable thing, and one that affects the supply of labor. Over four fifths of the persons employed in gainful occupations in the United States in 1920 were males — a fact which suggests that the relative proportions of the sexes in the population have an important effect on the supply of labor. There are more males than females in the population of the United States, while the reverse is true of most European countries, this difference being due in large part to the excess of males among our European immigrants. There are important differences in this respect between the individual states. Males constitute nearly two thirds of the population of Montana and less than one half of the population of Massachusetts. The age composition of the population must also be taken into account. The United States census of 1920 showed that nine tenths of the persons engaged in gainful occupations were between 15 and 65 years of age — comprising what is sometimes called the "productive age group." A larger proportion of the population of the United States is between these ages than is the case in most European countries — a fact due to the large number of foreign-born adults in our population. In most European countries a larger proportion of the population is of "productive age"

than is true of the *native* population of the United States. In considering the effect of these natural groupings of the population upon the supply of labor, we have also to take account of differences in the nature of industries, in national or local customs, and in the presence or absence of legal restrictions, — all of which affect the number of women and children who can be counted as part of the available supply of labor. Various observers have suggested that the frequent holidays in the Latin countries of Europe are an appreciable obstacle to the industrial development of those countries, for they materially diminish the real supply of labor. In this country since the World War, the whole labor situation and the volume of unemployment in particular have been appreciably affected by an unusual increase in the number of persons 16 years of age and older attending schools of various kinds. In the six years between 1921 and 1927 it is estimated that this group increased by more than one million persons.

The supply of labor is not, however, merely a matter of the number of available laborers. The physical strength and vigor, industry, intelligence, ingenuity, and moral qualities of the laboring population determine the amount and kinds of work they can do. These things vary greatly as between different races and as between different individuals of the same race. They are not wholly determined by heredity, for they can be influenced greatly by the physical and social environment. So far as high wages mean more and better food, and improve the other conditions of living, they tend to increase physical and mental efficiency, and thus to increase the quantity and better the quality of labor that can be got from a given population. There may often be, even when we take only production into account, a real economy in high wages. Public education and public insistence upon pure foods, upon hygienic conditions in homes and in factories, and upon opportunities for wholesome recreation tend to increase the efficiency of labor.

The Relation of the Growth of the Population to the Supply of Labor. — Just as the potential supply of commodities at any given time is determined largely by past conditions, so the potential supply of labor at any given time is to a very large extent prede-

termined. Subject to the limitations which have been mentioned in the preceding section, the supply of labor is a matter of the numbers of the population, and the factors affecting the growth of the population are, from the long-time point of view, the most important things determining the supply of labor.

Most of the discussion of these factors has centered around the *Malthusian theory of population* — the doctrine that population tends to increase faster than the food supply, and is only held back by the actual pressure of famine and disease (arising from an insufficient food supply), or by the prudential motives which restrain men from undertaking the responsibility of marrying and raising families upon incomes insufficient to provide the necessities of life. Just what the first part of this doctrine means can be made clear by referring to the conditions in a country like India, where the population presses so closely upon the food supply that any considerable failure in the rice crop is sure to result in famine and starvation. Every increase in the food supply is followed there by an increase in the birth rate and a decrease in the death rate; every diminution in the food supply is followed by a decrease in the birth rate and an increase in the death rate. The recurrent famines in India, which have been charged by some ignorant or prejudiced observers to neglect or incompetence on the part of the British government, are, in fact, unpreventable, so long as these conditions prevail.

When, however, we fix our attention upon the United States, upon Canada, England, or any other country possessing Western civilization, we notice many things that do not seem to harmonize with the Malthusian theory. For example, the United States now has an agricultural problem arising from a *surplus of food products;* a surplus which has kept down the price of the farmer's produce, thus giving rise to a great deal of discontent on the part of the agriculturalists. In England the farmer is not much better off; for the importation of wheat and other staple food commodities from America and elsewhere, forces him to sell his home-grown produce at prices hardly sufficient to allow reasonable profits. For such reasons, some critics are inclined to credit the Malthusian theory with very little present economic significance. The theory,

however, harmonized better with conditions in Europe at the end of the eighteenth century.

As far back as 1630, England was thought to be overpopulated; overcrowding at home being one of the reasons commonly given for the policy of colonization undertaken at that time. Yet the best estimates indicate that England did not then have more than five and a half million inhabitants. A hundred years later, despite the growth of industry and of foreign and domestic trade, as well as some important improvements in agricultural methods, the population had increased to only about 6,200,000. In 1761, on the eve of the Industrial Revolution, the population is estimated to have been about 6,700,000.[5] By 1831, when the factory system was thoroughly established (although England was still trying to raise most of her own food supply), the population had more than doubled, amounting to about 14,000,000. Since that time England has developed her manufacturing and commercial interests, but has imported a larger and larger proportion of her food supply and raw materials from newer countries, where land is cheaper. The latest census of England (1921) showed a population of 38,000,000. There is no explanation of this remarkable growth in the population of a country which was "overcrowded" in 1630, other than the obvious one implied in the fact that the opening up of new countries and improvements in transport have enormously increased the world's supply of food products and raw materials — a considerable portion of which England has been able to get for herself through the development of those commercial and manufacturing activities in which her early start, her situation, her coal and iron mines, and her own necessities, have given her a preëminence.

The total population of all Europe in 1760 was probably not over 130,000,000. In 1920, despite the losses inflicted by the World War, it was about 450,000,000, some 200,000,000 of this increase having taken place since 1820, and about 150,000,000 since 1872. Account must also be taken of about 150,000,000 persons of European origin or descent living outside of Europe. Moreover, wherever this European expansion has carried West-

[5] For these estimates, see Census of Great Britain, 1850, Vol. II.

ern civilization and industrial methods, the numbers of the native population have more often increased than decreased.[6] Such, for example, is the case in Mexico, South America, the Philippines, Java, India, and Egypt. For at least a hundred and fifty years before the opening of Japan to Western civilization its population had remained nearly stationary. Since 1871 it has increased from 33,000,000 to approximately 56,000,000 (1920). The probability that this great increase in that part of the world's population which has adopted modern industrial methods has come about by a decrease in the death rate rather than by an increase in the birth rate does not alter the significance of the fact that these improved methods of production and transport have operated like the release of a spring,[7] allowing the natural tendency toward the increase of the population to work itself out more fully.

Account must be taken, however, of the remarkable decline of the birth rate in western nations. In the quinquennium 1871–1875 the birth rate in Northern and Western Europe was 32.7 per thousand. By 1926 it had fallen to 19.2 per thousand.

With a fertility and mortality as they prevailed in Western and Northern Europe forty or fifty years ago, the population would have doubled in three generations. With a fertility and a mortality as they have prevailed for some years, the population of Western and Northern Europe is bound to die out. This process, of course, will be rather slow. With the present age composition it would take decades until there actually would be an excess of deaths over births, and it would take centuries until the population would be half of what it is now. The process will be accelerated if emigration continues, while it will not, of course, be affected by immigration since we are concerned only with the present population and its descendants. It can be stopped by an essential change in mortality or in fertility. But the future reduction of mortality in those ages which are the only decisive ones, that is those under fifty years, cannot be very great after all that has already been accomplished. The future then depends mainly on the trend of fertility.[8]

[6] W. F. Willcox, "The Expansion of Europe in Population," *American Economic Review* (December, 1915), Vol. V, p. 749.

[7] This figure was applied to the effect of an increase in wealth upon the growth of the population by Sir James Steuart, in his treatise on Political Oeconomy (A. Miller and T. Caldwell, London, 1767).

[8] R. R. Kuczynski, *The Balance of Births and Deaths* (The Macmillan Co., New York, 1928), Vol. I, pp. 9, 62.

The question of the slowing up in the rate of population growth is discussed in greater detail in the following chapter. It will suffice to notice here that population, in the recent past, has not increased as rapidly as wealth has increased. Average real incomes are very much higher than they were before the Industrial Revolution — a statement that holds true for average real wages. Interpreted in the light of the principle of diminishing productivity, this means that population has not increased so rapidly as capital and the available supply of land have increased. If there had been no increase in population during the last one hundred and fifty years, the marginal productivity of labor would (if, nevertheless, modern methods of production had been developed) have been very much higher than it is, and wages would have been correspondingly higher than they are.

The Subsistence Theory of Wages. — The doctrine that wages, in the long run, tend to equal a bare subsistence, was a theory advanced by English economists in the first quarter of the nineteenth century as a corollary of the Malthusian law of population. Said Ricardo: "The natural price of labor is that price which is necessary to enable the laborers, one with another, to subsist and to perpetuate their race, without either increase or diminution." Granting the premises, the logic was incontrovertible: If wages fall below this level of subsistence, the result will be, in the long run, fewer laborers and therefore higher wages. If the increase in wages goes beyond the level fixed by the cost of subsistence, the result will be, according to the Malthusian doctrine, more laborers and therefore lower wages. The cost of subsistence in this view formed the "expenses of production" of labor, and the actual wages determined by supply and demand were supposed to fluctuate around these normal wages as the market prices of commodities fluctuate around the normal prices fixed by the expenses of production.

Socialists and advocates of the single tax have made much of this theory of wages as proving the impossibility of bettering the condition of the laboring class under existing conditions. By some socialists this doctrine, in its most rigid form, has been called the "iron law of wages." But socialists and followers of Henry George

alike have to face the difficulty of accepting this theory and at the same time rejecting the theory of population on which it rests — a theory which they cannot accept, for its truth would obviously place insuperable obstacles in the way of any lasting improvement in wages being achieved through the adoption of their schemes. The subsistence theory of wages, if true, would be just as true under socialism or under the national ownership of land as under existing conditions.

The subsistence theory of wages was in part a reflex of conditions actually existing in England at the time. Wages were very low, and the law required that deficiencies in wages, below the amount necessary for the maintenance of the laborer and his family, should be made up out of parish funds — a provision which in itself tended to keep down wages, and was made still worse by the fact that the allowance to a family for maintenance was proportioned to the size of the family, thus encouraging the rapid increase of the population.

The Relation of the Standard of Life to the Supply of Labor. — Whatever may have been its significance in the past, the subsistence theory of wages does not square with the facts of today, for the amount paid in wages is considerably more than is "necessary to enable the laborers to subsist and to perpetuate their race, without either increase or diminution." Ricardo himself did not give to the "minimum of subsistence" the fixed and rigid meaning which some socialists have attached to it. It varied, he recognized, with the habits and customs of the people. In this more elastic form the "minimum of subsistence" shades into what has been called the "standard of life." As we have seen in Chapter VIII, the term "standard of living" is used with several distinct meanings, but in this connection *the number and character of the wants which a man considers more important than marriage and family constitute his standard of life.* Whenever wages fall below a point where the standard of life can be maintained for a family, the workman will do without the family and maintain the standard of life for himself alone.

While the increase in the quantity of goods produced that has taken place by reason of the industrial revolution and the utiliza-

tion of new and vast bodies of natural resources has been attended with an unprecedented increase in population, it has also been attended with an improvement in the standard of living. Every advance in the standard of life marks a step definitely gained in the economic progress of the laboring class; it affords a vantage ground for yet farther progress. This is not only because the standard of life is, by very definition, a fundamental factor in determining, in the long run, the supply of labor, but also because experience has shown that the standard of life affords an element of strength to laborers in their bargains with employers. Any encroachments on it are met with strong and determined resistance. Moreover, a high standard of life is, as we have seen, one of the things that make for productive efficiency on the part of the laborer, and hence tend to increase his earning capacity. The wisest philanthropy is embodied in the efforts made to raise the level of living. Among such efforts are included public and private movements to secure better conditions of housing, municipal expenditures for places of public recreation, for public libraries, for such things even as clean and well-lighted streets; and, above all, public education.

The extent to which the possibility of attaining a higher standard of living operates as a restraining force upon the increase of the population is largely determined by the extent to which democratic ideals are realized in the social organization. It is a noticeable fact, for example, that the first generation of immigrants to the United States bring with them the habits and ways of living of their European homes. So long as simple standards of life are retained in connection with the larger incomes which they are able to earn in this country, more of them are able to marry; they are able to marry earlier, and they can raise larger families. But the second generation grows up in an American environment. They attend our public schools, where they mingle with American children and receive an American education. The possibility of taking a social and economic position higher than that of their parents is opened up to them. They become saturated with the American notion that each man has a chance to climb to the top of the ladder. They find here no rigid barriers separating social

classes from one another. "Like father, like son" may have been true in Europe; here it has no binding force. Hence the birth rate among our native population of foreign parentage is very much lower than the birth rate among our foreign-born population.

The Supply of Labor in Different Occupations. — Just as the demand for labor on the part of entrepreneurs is not a demand for "labor in general," but a demand for specific kinds of labor, so the supply of labor is the supply of laborers who are able and willing to do certain definite kinds of work. The supply of labor in any given occupation is, at any given time, almost as rigidly fixed as is the supply of labor in general. Laborers can usually change from one occupation to another only at the loss of the advantage of whatever specialized skill they may have acquired. This is, however, a matter of *occupations*, not of *industries*. There is, for example, a wide range of industries open to a skilled mechanic. But in the skilled trades what variability there is in the supply (at any given time) comes less from any possibility of passing from one trade to another than from the opportunities the more efficient and ambitious workmen have of entering business on their own account (that is, of becoming entrepreneurs) or of entering some calling where general ability, rather than specialized skill, is the prime requisite. The carpenter may become a contractor; the skilled mechanic may become a salesman, and this, very likely, in some line where his specialized skill will still be of some advantage. The options thus open to the stronger members of each group should not be lost sight of in any consideration of the forces tending to resist a downward movement in the wages paid in any occupation.

When we take a longer period of time into account, we find more elasticity in the supply of labor in particular occupations. The ranks of each trade are being continually depleted by old age, death, and, to some extent, by the alternatives open to its stronger members. These gaps need not be filled by an incoming body of apprentices if the wages paid are lower than the wages in other occupations demanding a similar degree of preparation and ability. But there is a certain amount of inelasticity even here, for a variety

of reasons, among which we may note: (1) imitation, which leads a boy to enter the same occupation his acquaintances have chosen; (2) the fairly common tendency of sons to enter their father's occupation; (3) lack of knowledge or appreciation of the relative advantages of different employments; and (4) the fact that only a small number of options may be open to the residents of a particular district. These facts, in turn, have an important bearing upon the localization of industry, for industries are apt to be located in places where there is a present and prospective supply of specially skilled labor.

Differences in wages, together with other factors just mentioned, are not the only considerations which attract laborers to different occupations. There are differences in the wages paid in different employments which are out of all proportion to any differences in the training or the ability they require. Adam Smith enumerated five circumstances which "make up for a small pecuniary gain in some employments, and counterbalance a great one in others." These are: "I. The agreeableness or disagreeableness of the employments themselves; II. The easiness and cheapness, or the difficulty and expense, of learning them; III. The constancy or inconstancy of employment in them; IV. The small or great trust which must be reposed in those who exercise them; and V. The probability or improbability of success in them."

These circumstances need explanation in two particulars.

First, the agreeableness or disagreeableness of an employment is very often a matter of the social standing attached to it. Many men are doing clerical work to whom some kind of physical exertion would be both more pleasant and more profitable, but who dislike to be classed among the "manual laborers." So-called "professional pursuits" attract many men to whom more lucrative opportunities, requiring less special preparation, are open in other employments. Second, the most poorly paid (because the least efficient) laborers are found in the least agreeable and the most uncertain employments.

The Wage Contract. — The wages that a laborer actually receives are determined by an agreement between himself and

his employer. Here appear again those "gains of bargaining" which were mentioned in the discussion of the prices of commodities. But in the case of the wage agreement, if the bargain is between an employer and an individual workman, the advantage is likely to be very largely on one side. The employer generally knows pretty accurately what he can afford to pay the laborer; he knows how much the laborer will add to his product, and his knowledge of business conditions helps him to estimate the value of this added product. He knows what it would cost him to get his added product in other ways, as by paying some of his present employees for "overtime" work, or possibly by speeding his machinery faster. Moreover, there is the possibility, or even probability, of getting some other laborer, in case he fails to come to an agreement with the one in question. His experience as an employer of laborers will help him to gauge the minimum that the laborer will accept.

The position of the laborer is quite different. He can gauge with less accuracy just how much his services are worth to the employer. The minimum wage that he will accept will be governed by his very limited power of holding out for higher wages, or by his estimate of what he can get in other employments — very few of which may be open to him. The whole situation may be expressed by the statement that it is usually a matter of small importance to the employer whether or not he secures a particular laborer, while the securing of a particular employment is often a matter of the very greatest importance to the laborer. Under these conditions wages are likely to be fixed much closer to the minimum which the laborer will take than to the maximum which the employer will pay. Where laborers can bargain in groups rather than as individuals, their disadvantages are lessened. The fundamental motive underlying the development of labor organizations has been to secure the advantages of *collective bargaining*.

Wage Trends and Wage Theories. — The trend of wages in recent years, both for factory workers and other employees has been given in convenient form in Table XXII. Both nominal and real wages have risen since the beginning of the war and the increase in real wages continued without interruption through the

year 1928. It has been shown that the increase of wages has coincided with a marked expansion in the output of industry; and particularly in the average output per worker.[9] The expansion of output and the rise in wages have both been accomplished in the face of a diminution of the hours of labor. The National Industrial Conference Board estimates that the number of working hours in the manufacturing industry declined from 55 per week in 1914 to 49.6 in 1927. Some increase in unemployment has resulted from technical progress in recent years. This increase, which cannot be measured with statistical accuracy, is probably moderate. During the period in question, it may be noted, the profits of industrial corporations, the prices of industrial stocks and the dividend payments of corporations rose even more rapidly than industrial output or the earnings of labor.

Many causes have combined to produce these results. Immigration has been restricted and the growth of population retarded by other influences; the technical efficiency of both men and management has been raised in agriculture and transport as well as in manufactures; the majority of employers seem to have abandoned the policy of cutting wages as a first step in retrenchment. The more liberal attitude of the employers has been met by a corresponding change in the point of view of the trade-unions. Organized labor has shown an increasing disposition to coöperate with the employers in the attempt to intensify productive efficiency, even if it involved a greater use of machinery. Since 1922 comparatively few strikes or labor disturbances have occurred. Finally, the rise in the cost of living has been checked by the maintenance of an unusually stable price level.

All this is consonant with, though it does not necessarily prove, the marginal productivity theory of wages. Perhaps the most significant fact is the steady rise of both wages and output in the face of an actual decline in the number of laborers at work in agriculture and manufactures. The post-war attitude of employers toward wages has combined with the enlightened policy of the trade-unions to relate wages to productivity. At the same time, the diminution in the rate of increase of labor supply has restricted

[9] See Chapter VII.

the competition for work among laborers. All this has contributed to increase the productivity and the value of the services of the marginal laborer. The result has been a steady gain in money earnings; and this, on account of the stable price level, has represented an equivalent advance in real wages.

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CHAPTER XXII

RENT OF LAND

Introductory Statement. — The older economists, and especially Ricardo and his followers in the English classical school, differentiated land from capital and other forms of wealth, and ascribed to rent and other attributes of land distinct peculiarities. These differences were erected or broadened into a theory. The enormous social consequences drawn from this theory make it necessary to describe and discuss it; though economic thinking in the past twenty-five years has revealed the necessity of so radically criticizing and modifying the assumptions on which the older concept of rent is based that many modern economists have abandoned the theory altogether. In this chapter, therefore, we shall first discuss the old theory, which is substantially the theory as stated by Ricardo. Its harsher features were subsequently somewhat softened and modified, especially by John Stuart Mill, who, however, accepted the original theory in its main outlines. In the second place we shall discuss modern views concerning rent, or, as we prefer to call it, income from land; which views, we believe, represent the trend of opinion of the best thinkers. Finally, we shall briefly discuss the social implications of the Ricardian concept of rent and the single tax theory with which the name of Henry George is connected.

THE CLASSICAL THEORY OF RENT

The Ricardian Theory of Rent. — The Ricardian theory of rent used to be considered "one of the cardinal doctrines of political economy."[1] According to that concept, rent consisted of compensation for the use of the "original and indestructible powers

[1] John Stuart Mill, *Principles of Political Economy* (Ashley edition, Longmans, Green and Co., New York, 1909), p. 425.

of the soil." It was not to be confused with the popular meaning of the term rent: that is, the price paid for the use of durable goods of any kind owned by another, for example, a house or a building. Rent, in the popular sense of the term, the older classical economists claimed, consisted of two elements: (1) ground rent, or what Ricardo called the compensation which is paid to the owner of land for the use of the "original and indestructible powers of the soil"; and (2) capital rent, the price paid as interest on the capital invested in improving the quality of the land and in constructing the buildings on it. *Economic rent comprised only the first of these two elements.* The distinction is not altogether fanciful, though we are generally accustomed to see the two component parts of the income derived from land going to one and the same proprietor. In many large cities, however, they are paid to separate owners. Sometimes one man owns the land and lets the use of it for a long term of years to another who erects buildings upon it, which, either with or without payment, become the property of the landowner at the expiration of the lease. Often, however, the separation in ownership is permanent, the house owner paying perpetually an annual sum for the use of the ground. This is the case in Baltimore, for example, where "ground rents" are an important feature in the economic life of the city. In such cases the two elements in the income derived from land are clearly distinguishable. Nevertheless, as will be seen later, the distinction has not the significance originally ascribed to it.

The Quality of Land. — The Ricardian theory of rent laid great stress on the differences in the quality of land. Certain types of land, it was stated, will yield nothing to any amount of labor. Other types can be made to produce something, but not enough to defray the expenses of production. The conformation of the land constitutes an essential element in the quality of land. A steep, gravelly hillside can, by no possible effort equal a plain in fertility. The north side of a mountain cannot be made to produce the same crops as the south side. Climate is not, to be sure, a "property of the soil," but it is an inseparable appurtenance of the land, and upon it the productiveness of the land largely depends. The ownership of a piece of land carries with it the advantage of

all the conditions which attach to that land. Ricardo and many of his immediate followers looked upon rent as springing out of inherent natural conditions. Thus they spoke of rent as the effect of a "natural" monopoly.[2] If, however, land of all qualities existed in abundant or unlimited quantities, rent would not exist. Thus, according to Ricardo,[3] the first settlers in a new country would have no need to pay rent. So long as any man could get land of the best quality free, there was no reason why he should pay rent to any one else. But this state of affairs would last only as long as some of the best lands remained unoccupied. When population made it necessary to utilize inferior lands, the owners

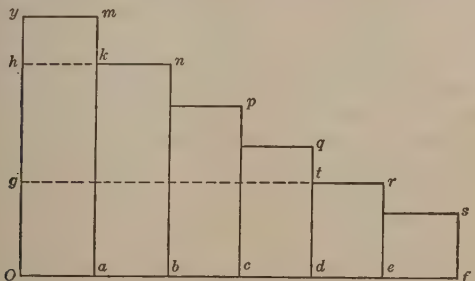

FIG. 1

of the better lands would be able to demand and receive a rent for the use of their lands. This reasoning will be made clear by reference to Figure 1, which is constructed on the assumption that there are six grades of land, *A*, *B*, *C*, *D*, *E*, and *F*, and that all these lands require the same amount of cultivation per acre. The successive rectangles represent the selling value of the product that can be raised on one acre of each of these different grades of land, by the use of a fixed amount of labor and capital. The product of an acre of the best land, *A*, will sell for *Oamy* dollars. Until all of this best land is occupied, no rent will be paid, because, if

[2] John Stuart Mill, *op. cit.*, p. 422.

[3] Ricardo, *Works*, "Principles of Political Economy" (John Murray, London, 1846), p. 35.

rent is asked, the user of the land can, presumably, avoid paying it by taking up equally good land free of charge, and the entire value of the product will be available for the expense of the capital and the wages of labor employed in its cultivation.[4]

As soon, however, as it becomes necessary to cultivate some of the *B* lands, the situation will be altered. The owners of the *A* lands can now exact a rent for their use, and the tenant farmer has no alternative, except to utilize land of the second grade, on which the fixed amount of labor and capital will only produce a product per acre selling for *abnk* dollars. The rent which will be paid per acre for *A* lands will amount to the difference between the value of the products of the two grades of land (*hkmy* in the diagram). For if the landowners attempt to charge more than this difference, tenant farmers will find it more advantageous to use the *B* lands; if they charge less, the *A* lands will be the more remunerative to the farmer, and competition among the farmers for the leases of *A* lands will force the rent up. In short, rent will normally be fixed at the point which will *just equalize the advantages of cultivating the two kinds of land.*

As soon as increased population and the consequent need of a larger food supply and more raw materials have forced men to begin to cultivate lands of the *C* grade, the *B* lands will command a rent, while the rent of the *A* lands will be increased. And as cultivation is pushed down to still poorer and poorer lands, the rents which these better lands command will be still further increased. Thus, when some lands of grade *E* are in use, the value of the product which can be got from this free land, by the use of the fixed amount of labor and capital, will be *dert* dollars per acre. This sum will just about pay the cost of labor and capital, for if it amounts to less than these expenses of production, the *E* lands will not be worth cultivating; if it amounts to very much more, it will pay to cultivate still poorer land. But if *dert* dollars will just pay wages and interest on the *E* lands, the same sum will pay wages and interest on the better lands, for we have assumed that the same amount of labor and capital is used on each grade of

[4] The profits which the farmer may receive as entrepreneur do not affect the analysis, and may accordingly be neglected.

land. The expense for labor and capital will, therefore, be represented on each rectangle by the area below the line *gt*, while the area above this line will represent in each case the rent per acre which the landowner will receive.

Rent, then, according to the Ricardian theory, is a *differential which measures the superiority of the rent-bearing land over the marginal land — the land which just repays the expenses of cultivation.* It is not necessary to the significance of the doctrine that all, or even any, of the farmers should be tenant farmers. If the farmer owns the land that he operates, the part of his income which may be imputed to the superiority of his land over an equal area of marginal land must, in any accurate accounting, be counted as rent.

Rent under Conditions of Intensive Cultivation. — It has been assumed, up to this point, that equal amounts of labor and capital would be used on lands of different grades. As a matter of fact, even after the *A* lands are all occupied, the supply of agricultural products can be increased without resort to poorer lands. All that is really necessary is to cultivate the *A* lands more intensively. When this is done, however, the law of diminishing returns is encountered. Successive equal amounts of labor and capital used on the same lands cannot be expected to yield uniformly large increments of product. It will pay, however, to go up to the point where the last unit of labor and capital adds barely enough to the product to pay for the increased expense, — a point which was called by post-Ricardian writers the *intensive margin*. The result of this more intensive cultivation is represented in Figure 2. Now the first rectangle in this diagram (*Oamy*) represents precisely the same thing as is represented by the first rectangle in Figure 1, the return (in value of product) from the cultivation of an acre of land of *A* grade by the use of a fixed amount of labor and capital. The second rectangle in Figure 2, however, represents the additional product resulting from the use of a similar unit of labor and capital on the *same acre*, while the third represents the increment of product due to employing yet a third unit of labor and capital in the same way. Assume that this third unit A_2, adds just enough to the selling value of the product to pay for itself.

Then, as already explained in the discussion of diminishing returns, the area *Ocph* will represent that part of the farmer's income which will be used up by the expense incurred for the three units of labor and capital used on this one acre of land, and the area above the line *hq* will represent the real rent of that acre. If land *E* (Figure 1) just repays the expenses of cultivation when one unit of labor and capital is used per acre, the value of the product per acre of this land will equal the value of the increment of product attributable to the third unit of labor and capital used on land *A*. (That is, the area *dert*, Figure 1, equals the area *bcpq*, Figure 2.) So far, then, as the margin of cultivation is concerned, Figure 1 represents the conditions accurately. The productivity of capital and labor at the intensive and extensive margins is the same.

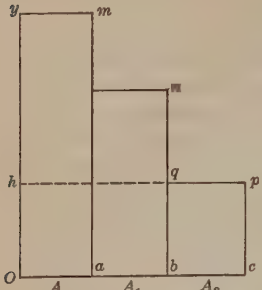

FIG. 2

But Figure 1 does not completely represent the older theory of rent in that (1) it does not indicate the fact that larger quantities of capital and labor are used on the better lands than on the poorer lands, and (2) it does not represent the larger products due to this more intensive cultivation of the better lands. These considerations are taken account of in Figure 3, which also, by the substitution of curves for successive rectangles, represents the infinite variety of degrees of goodness of the different acres making up the land supply of a country. In Figure 3, the line *am* represents the money value of

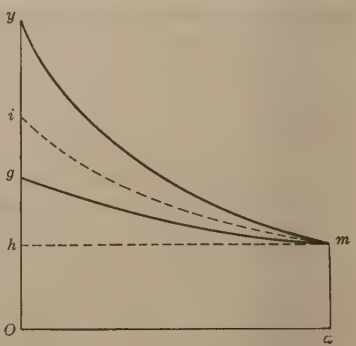

FIG. 3

the product of an acre of the poorest land in use, and the area *hmi* represents what rent of other lands would be per acre under conditions of uniform intensivity of cultivation. The area *Oamg* represents the diminishing amounts of labor and capital actually used per acre as we pass from the better to the poorer lands, while the area *gmy* represents the rent per acre of the different grades of lands. The foregoing analysis leads to the following revised statement of the Ricardian theory of rent:

The rent of any piece of land is measured by the difference between the money value of the products obtained from it by the use of the most advantageous amounts of labor and capital and the money value of the products which could be obtained by the use of equal amounts of labor and capital on marginal land, or at the intensive margin of cultivation.

This statement should not be understood as comparing the total product raised on a given piece of land with the total product which could be got from the *same amount* of marginal land. This would be to reintroduce the assumption of uniform intensivity of cultivation — an assumption which impaired the adequacy of the theory of rent illustrated in Figure 1 above. On the contrary, it is assumed in the present statement that the farmer would use whatever amount of the marginal land he found most profitable. If it were profitable to use twenty times as much labor and capital on a certain piece of land as on a similar amount of marginal land, to employ the same amount of labor and capital profitably on marginal land would take twenty times as much land.

The Different Uses of Land. — We have seen that the better lands will repay more intensive cultivation than the poorer lands, and have found this fact to be of great significance in the older theory of rent. More intensive cultivation does not only mean the more thorough cultivation of the land in the raising of any one crop. Land produces a great variety of products, and some products demand more intensive cultivation than others. In the business of raising cattle, as it is conducted on a large western ranch, the total investment of capital and labor may be very considerable, but the investment *per acre* of land is very small indeed; while a small market garden, located near a great city, will repay a very high degree of intensivity of cultivation. It is only on the best

lands that crops requiring a large amount of labor per acre can be raised profitably. By the best lands is meant not only the lands which are best fitted by soil and climate for the production of particular crops, but the best lands in the sense that they are nearest the market. For example, cities in the eastern part of the United States get some fresh vegetables from market gardens in their own environs, while another part of the supply may come from the southern states or even across the continent from California. The local market gardens are good lands by reason of their situation; the more distant lands are good lands because of special qualities of soil or climate which enable them to furnish out-of-season vegetables.

The poorest land that can profitably be used in the growing of *any one kind of product* is not necessarily marginal land. Land too poor for market gardening may be good wheat land; land too poor for wheat may be good grazing land. The poorest land devoted to any one purpose may yield a rent, because of its relative superiority in some alternative use. The marginal lands used as a basis of comparison in our statement of the Ricardian law of rent are the poorest lands used for any purpose — grazing lands, possibly. But, as we have seen, rent may also be measured from the intensive margin of cultivation, and the intensive margin is found on all lands, even the best.

Mineral Lands. — According to Ricardo, the principle governing the rent of mines is "precisely the same as that . . . already laid down respecting land." If, he stated, there were an abundance of equally fertile mines, available to all, they would yield no rent. It is obvious, however, that mineral land differs fundamentally from agricultural land, because there is no possibility of replacing the materials taken from the earth.

Mining is a continual harvest; it is purely extractive. Even forests reproduce and replace themselves if given long enough time, but this is not true of minerals. Consequently the income yielded by mineral lands differs from that from other kinds of land, and this fact should be recognized when a policy for utilizing mineral lands is formulated.[5]

[5] R. T. Ely and E. W. Morehouse, *Elements of Land Economics* (The Macmillan Co., New York, 1924), p. 139. See also *The Foundations of National Prosperity*, by Ely, Hess, Leith, and Carver (The Macmillan Co., New York, 1917), Part III, by Professor Chas. K. Keith, "The Conservation of Certain Mineral Resources."

Agricultural land, on the other hand, is enriched by use, under the conditions of cultivation prevailing today. This difference between mining and agriculture illustrates the fundamental contrast between the Ricardian theory of rent and the modern view of the income derived from land.

CRITICISM OF RICARDO'S THEORY OF RENT

Ricardo's Assumptions. — One of the main premises upon which the Ricardian theory of rent rested was the assumption that nature has supplied land, one of the chief factors of production, in strictly limited quantities. A second premise is that population normally and regularly exercises a pressure upon the means of subsistence. If the quantity of land is very limited and far below what man needs, and if the fertility of mankind is such that it leads to an excessive demand for what land can produce, then the rent of land must continually increase, and the landowner must necessarily enjoy an especially privileged position.

When Ricardo wrote, conditions in England seemed to harmonize with these two premises, and it was natural that he should adopt them as the foundation of his theory of rent. The Napoleonic Wars on the Continent, together with a high protective tariff in England, kept England from importing grain from Europe. At the same time population was growing rapidly. All this led to very high wheat prices, a considerable extension of the land under cultivation, and a remarkable rise in rents. The Ricardian theory of rent was the outcome of this state of affairs. Economic conditions are, however, very different in our own country today. The preceding chapters have shown prosperity continually increasing. We now have a surplus of food products, and an overabundance of land, utilizable and potentially utilizable. It is to be noted, also, that Ricardo assumes that equal quantities or "doses" of managerial labor are applied to the areas of land compared, as well as equal doses of ordinary labor. This implied assumption can hardly be accepted in explaining actual rent because, in reality, there are more varieties of entrepreneurial ability than of ordinary labor ability. That these premises are no longer accepted must be borne in mind in reading the following criticism of the details

of the older concept of rent and the exposition of modern ideas concerning land income.

The Fundamental Resemblance between Land and Capital. — The income derived from land depends, to a great extent, on what has been put into the land, so that the tendency is now to regard land, in the economic sense, as largely produced and as one kind of capital. In determining the price asked for land, account is taken of the outlay of capital, draining, terracing, wells, and irrigation. As Dr. Virgil P. Lee has pointed out: [6]

> Clearing away the brush or timber is done once for all and serves for all future operations of farms. In many sections of the country, clearing is a very large item in the purchase price, sometimes even more than the price of the uncleared land. It often takes numerous crops to yield a net return sufficient to pay for the clearing of the land. Since clearing endures as long as the land, the cost of clearing should be considered as a part of the purchase price of the land.

The same considerations, says Dr. Lee, should be applied to drainage, irrigation, and terrace systems. Thus the old distinction drawn between rent as the price paid for "the original and indestructible powers of the soil" and as the price paid as interest on the capital invested in improving the quality of the land ceases to have any great significance. It is true that we find land in all forms provided by nature, but in economics we are not concerned with the physical supply of land as such, but with *the economic supply of land*. In all the older countries, the toil of ages has gone into the economic utilizability of land. No land is economically utilizable which does not represent human toil of some kind. For example, land cannot be put to economic use unless we have access to it; and the efforts involved in creating means of access often constitute a very considerable part of the cost of making land economically utilizable; land may thus be said to be "produced," and to be the result of "stored-up effort." In the case of agricultural land the cost of bringing it under the control of man is very high. When we examine the question of housing, we find that a large proportion of the expense consists of the cost of access. This brings us to the question of urban land, which has been almost completely neglected by the Ricardians.

[6] Virgil P. Lee, *Principles of Agricultural Credit* (in preparation).

TABLE XXIII

ESTIMATED COST OF IMPROVED RESIDENTIAL LAND IN SUPER BLOCK SUBDIVISION, RADBURN, BERGEN COUNTY, N. J.
(Second Development of City Housing Corporation)

ITEM	EXPLANATION	COST PER SQ. FT. OF SALABLE LOT	COST PER SALABLE LOT 4000 SQ. FT.
LAND COST OF LOT	Purchase price of unsubdivided gross land area including title and title survey expenses averaging $2500 an acre	$.06	$ 240.00
LAND COST OF BEDS OF STREETS AND PARK AREAS	Land area devoted to streets and parks is 40% of gross land area, leaving 60% as net usable or salable area — consequently add $\frac{40}{60}$% or $\frac{2}{3}$ to above amount, making $4000 an acre . . .	.04	160.00
IMPROVEMENT COST	Cost of grading streets, installing storm sewers, sanitary sewers, concrete paving, curbs, sidewalks, street trees, street lights (electric, gas, water being installed gratis)	.20	800.00
LANDSCAPING COST	Includes the extra costs of a garden community —		
	A. Park development, park walks, lights, top soil, shrubs, play equipment, etc.	.06	240.00
	B. Private lot development or yard planting work. (This item is usually not included as part of the cost of real estate and is either omitted or considered an extra item in construction cost.) . .	.09	360.00
OVERHEAD COST	Engineering and architectural fees and expenses for planning of the above and supervising, plus interest and taxes on the land during construction period only (No carrying charges, *i.e.* interest and taxes, have been added to the cost of the land from the time of purchase until construction commences. When this is added the cost of the land will be even greater.)	.05	200.00
	TOTAL IMPROVED COST	$.50	$2000.00

Few people realize what it generally costs to render land in large cities utilizable, or, in other words, to "produce" urban land. An illustration is afforded by the new city of Radburn (in New Jersey) which is being built by the City Housing Corporation of New York City. The land that goes with each house costs, originally, it is estimated, $240. By the time a lot is ready for a house to be put up on it, the estimated cost of the land is $2000. This sum covers accessibility, that is to say, the streets, and also includes the expense of providing a proper proportion of parks, playgrounds, and so on. Some idea of the cost of producing a building site is given by the Radburn figures, as worked out by the technical staff expert. They will be found in the table on page 445, which will repay careful study. We must mention that the cost of making the land utilizable has been kept low, because the City Housing Corporation operates with unusual efficiency and, being a benevolent corporation with a limited dividend rate of six per cent, secures capital at favorable rates and thus reduces costs below what is normal.

If we add to the cost of the lot interest and taxes for the period from the time the land is purchased until construction begins and also any other overhead costs, together with supervision for an average of five years (say $200), it will give a total cost per lot of $2200 and cost per square foot of 55c. In an earlier statement of the cost of land this estimate was included; but it was omitted from the above table, on account of its uncertainty. It must be noted that the land, when purchased by the City Housing Corporation, was not in its original state, for labor and capital had already been expended on it, though primarily for other purposes than for building. The question arises, Who bears the costs of making land utilizable for urban purposes and who reaps the benefits? In the case cited above the immediate cost was borne by the City Housing Corporation, so far as the provision of streets, parks, etc., was concerned. In other cases these are provided out of a general tax fund into which the landowners and others contribute.

Ripening Costs in Producing Land. — One of the chief defects of the older classical theory of rent was the failure to consider costs as well as income. This was partly due to the fact that agricul-

tural land and not urban land was observed by Ricardo and his followers, and their illustrations were nearly always drawn from agriculture. In the early nineteenth century agricultural land in England had already undergone many improvements. The conditions in pioneer communities in the United States and elsewhere are strikingly different. The typical settler of new land toils unremittingly. He and the members of his family labor early and late, receiving small income and hoping — and in recent years hoping usually in vain — for an increment in land values as recompense for their work, sacrifices, and waiting. In urban land, costs are high and constantly increasing with the rising demands made upon the utilizers of land in cities; and these costs are of growing significance as our civilization becomes more and more urban. We have to consider especially what we now call ripening costs in land utilization.

Unutilized land cannot be brought into use immediately. Generally speaking, it takes time for land to "ripen." This is illustrated in agricultural land in northern Wisconsin. A good authority has stated that a land settlement project in northern Wisconsin should comprise not less than 40,000 acres; but it takes a long time to get the settlers on this land and a still longer time for the settlers to bring the land into use. In the case of urban land, as, for example, at Radburn, a five-year period is considered necessary, on the average, to bring the land into use. This is a good example of ripening costs because every effort is made to reduce them to a minimum. It would be quite impossible to bring these 1250 acres of land into immediate use. The Directors of the City Housing Corporation, representing the owners of the land, appreciate ripening costs and are doing everything that is in their power to reduce them.[7]

Broadly conceived, *ripening costs occur when land is changing from one use to another;* from what may be called a lower use

[7] A more normal illustration of ripening costs would perhaps be afforded by the development in Madison, Wisconsin, called University Heights. This addition to the city was needed and the development was unusually rapid as things go. It has taken approximately thirty-five years to complete this development and in the meantime the land was gradually ripening into use. It is not easy to see how without loss the ripening period in this case could have been greatly shortened.

to a higher use. This period of transition, which is sometimes prolonged, frequently involves heavy expenditures. If the holder of the land is a private individual, the " ripening " costs falling on him take the form of taxes, special assessments, and the giving up of interest on his capital, unless these costs are anticipated and discounted in the purchase price of the land in question. If the ripening costs are discounted in the purchase price the discounting process is merely a method of transferring the burden of these costs from the purchaser to the seller of the land. These expenses must be borne even when the land is yielding no income. Normally, all costs are expected to be paid out of the income from the use of land, or recouped from its sale price. It is to be observed, however, that many people are induced to meet the ripening costs of land by the expectation of recoupment arising out of an increment in land value. From this observation is formulated what may be called the " law of ripening costs in land utilization." *The costs falling upon the holder of land during a reasonable period of ripening use are socially necessary, and are properly chargeable to the increment in land value resulting from the change in use.*

Obviously the time interval described above as a ripening period is not peculiar to capital investments in land. Such expenses are incurred in other forms of capital; but, in the case of land, they are particularly significant because of the heavy investments and long period of time required to change land from one use to another. Thus this ripening process exists in connection with land to a degree not found in connection with most other forms of fixed capital. Any attempt to explain why this is so involves a careful analysis of the peculiarities of land as a type of fixed capital. It requires a consideration of the unstandardized and specialized nature of the commodity, the immobility and durability of land, the ratio of land value to improvement value, the low rate of capital turnover, the legal rules regarding estates in land and transfers thereof, the practices and customs of those who use land not only as a commodity to be bought and sold, but also as a source of productive services needed to carry on other activities. These and other characteristics need careful examination in the light of their effect upon

this factor of the ripening period. Considered in the aggregate these characteristics seem to lead to the conclusion that this ripening process in connection with land is highly significant in explaining the nature of land costs and income.

Such an analysis affords an explanation of gross ripening costs which must be deducted before we ascertain what is the net income yielded by the land. Furthermore, in so far as ripening costs are costs of bringing land into use they have a potential effect upon the supply of land for a given use and through supply an effect upon land income. These various costs items indicate that the income from land is not altogether a costless income but is a return which must be earned just as the return from any other factor of production must be earned.

Historical Costs. — If an enterprise is to be successful, past costs must be remunerated in present returns. We have to reckon the past cost of bringing land into utilization. In the case of fixed investments like railways and land it is always possible to take away by taxation or confiscatory measures a part or the whole of the income that is a result of past effort. Land occupies the same position as other investments. If taxation takes away half the income, then it takes away half the value. This is true with regard to Liberty Bonds, with regard to railway property, and with regard to land. We have to consider justice and we have also to consider the effect of taxation upon future utilization.

Margins of Utilization. — The older theory looked upon land as peculiar in having an economic margin of utilization. Everything was measured upward from the margin of utilization of land. It is now apparent that this margin of utilization applies to all forms of capital. The utilization of the margin in land does not determine other margins. In a mobile competitive society like ours a perpetual shifting from one kind of utilization to another goes on, a shifting, not in the use of land alone but in the use of all productive goods, giving us one general margin of utilization for all forms of productive endeavor.[8]

[8] It is not to be understood that all marginal enterprises give the same yield as expressed in percentages of income to investment. Some enterprises yield a relatively low percentage of income because the return is partially psychic. Certain inequalities in

Costs do not directly determine value, *but they limit supply and thus* indirectly affect value. The returns on investments in landed property are usually low; it is a fact of common observation that the rate of capitalization, that is, the ratio of income to selling value, is lower for land than for most forms of capital goods. This is largely due to the fact that improvements in use have so greatly increased our supply of utilizable land in relation to a relatively declining demand as to cause decline in net income. Income and expenses have come closer together. The influences behind this feature are myriad, including not only technical improvements, but competition with other forms of investment, such as industrial stocks. Of course, with a general margin of utilization, the investor in land, in a competitive society, cannot normally and regularly expect a larger return than other investors receive. Indeed, as it is an investment preferred by many, the pecuniary returns are apt to be relatively low. In no country can a man buy land with no other funds than money he has borrowed and rely upon paying for it with its income, for the return on investments in land is normally and regularly less than the prevailing rate of interest.[9]

Economic Evolution. — All theory must recognize the effects of economic evolution. There was a time when land had a greater relative significance than now. It was the chief kind of wealth and the landowner was the typical rich man. The landowner was often in a position to oppress others because there were few possi-

wages and salaries are explained by the fact that a considerable proportion of the return is psychic income. Some enterprises may yield a large return because of disagreeable features connected with them. Consequently, if we had a system of perfect competition with all the enterprises uniformly reaching their margins we should have inequalities in percentage returns.

[9] Many reasons for this small rate of pecuniary return on land giving us a relatively low margin can be found. One reason is the psychic income from land investments in the form of amenities. Another is the very common exaggeration of anticipated increments in value. This has been especially the case in the United States because, in the past, in many parts of the country, land values have increased enormously. Account is taken of increments but not of decrements. The fortunate recipients of large gains from increments receive publicity but the newspapers do not publish accounts of decrements nor are they heralded abroad by chambers of commerce and real estate boards. These are some, but not all, of the reasons for the fact that the prevailing rate of interest in older countries is higher than the income that land as such yields.

bilities of exercising options or choices with regard to the utilization of one's powers. A progressive emancipation from the power of the landowner has gone on. The typical rich man is now not the landowner but a banker or merchant or a public utility magnate. We are learning to utilize more and more efficiently the forces of nature and consequently we release their free services to an ever increasing extent. This is one of the reasons for growing prosperity. But as already pointed out, this growing prosperity means suffering on account of maladjustments, as in the case of the farmers and producers of bituminous coal.

The Retardation of Population Growth. — We have two general forces operating upon the utilization of land and upon land values. The first is the growth of population. At present the outstanding fact about population is the remarkable slowing up in the rate of its growth. The result of scientific investigations by various authorities indicates an extremely slow rate of the growth of population within recent years. Statistical data prove the decline of fertility among European races since 1880. At the time of writing a conference was being held at the University of Chicago attended by experts from different countries. The authorities did not speak dogmatically because they appreciated how much is still unknown about the growth of population. Nevertheless the consensus of opinion was that we needed to have no apprehension about an undue growth of population. The researches brought forward in this conference indicated that there is now more danger of a decline of population than of an excessive increase.[10]

Improvements in the Utilization of Land. — The second force or factor results from increasing economies in the utilization of land. Nothing is more outstanding in the economic history of the

[10] See papers presented in June, 1929, at the University of Chicago on "Problems of Population and Migration" by the following: Shiroshi Nasu, Professor of Rural Economics, Imperial University of Tokyo, Komaba, Tokyo, Japan. Corrado Gini, Professor of Economics at the University of Rome, Italy; Director of the Central Statistical Bureau, Rome. Robert R. Kuczyinski, Professor of Economics at Berlin Handelshochschule; Council Member, Institute of Economics, Washington, D. C. Oliver E. Baker, Economic Geographer, Division of Land Economics, Bureau of Agricultural Economics, United States Department of Agriculture. These lectures were presented by the Norman Wait Harris Memorial Foundation and will be published in book form.

present century than improvements in the utilization of land, whether it be agricultural land or urban land. Ricardo and his followers recognized the fact that improvements in the utilization of land reduced costs and forced a given area of economically utilizable land to accomplish larger purposes; but they regarded these improvements as simply a minor factor. The effective demand for land was, they thought, certain to increase indefinitely.

It would take a good-sized volume to describe even briefly the improvements in agriculture which have taken place in the past centuries. These improvements, while rendering the bounties of nature more and more available, have tended in the long run to lower prices paid to producers. We discuss later, in Chapter XXIX, some of the results of this forward movement of agriculture which has consisted not only in improvements in methods of tillage and cultivation, in fertilizers, in the varieties of plants, in breeds of live stock, but also in organized social methods looking toward a better utilization of the nation's land supply, such as the irrigation of dry lands and scientific forestry.

Of much greater importance, however, than all these things taken together, has been the revolution in ocean and land transport, which has enormously increased the available amount of land. Lands in England have gone out of cultivation because the railway and the steamship have brought the great wheat fields of America to her very doors. Even in the United States the new lands brought near to market by the railways have often been of better quality than the lands previously cultivated, so that the margin of cultivation has gone up rather than down. There were 2,250,000 acres of improved farming lands in the state of New Hampshire in 1850; by 1900 this acreage had shrunk to 1,075,000 and by 1920 to 103,000,000. In Massachusetts from 1850 to 1900 the improved farm lands decreased from 2,135,000 acres to 1,300,000 acres, and in 1920 the acreage of improved farm land was only 909,000. Similar figures could be given for some of the other older states. The diminution in the use of old lands may be partly accounted for by their deterioration in fertility under continual cultivation without proper rotation of crops. But this is only a partial explanation, for any one who is familiar with agricultural

conditions in this country knows that even the most careful tillage could not have kept millions of acres of farm land which were once rent-yielding from going below the margin of cultivation, for the simple reason that the margin of cultivation rose. The railway companies' practice of making very much lower rates per mile on long hauls than on short hauls hastened the process, by minimizing the disadvantages of lands of good physical quality situated at a distance from the market.

Falling Land Values. — It is a fact of vital significance that the slowing down of the rate of population growth and the many technological advances in the utilization of land have contributed to bring about falling land values. So far as agriculture is concerned these are prime causes of the distress of the farmers. Dr. Oliver E. Baker, senior agriculturist in the United States Bureau of Agricultural Economics and one of the authorities in this field, estimates that the food supply has been increasing nearly twice as rapidly as the population in recent years. He uses these words:

> Agricultural production as a whole increased about 13.5 per cent, whereas population increased about 8 per cent; in other words, the increase of agricultural production was fully 50 per cent greater than of population. Incomplete data for the years 1927 and 1928 indicate that agricultural production is still increasing more rapidly than population.[11]

Instead of increments in land values the farmers have suffered from enormous decrements. John Stuart Mill thought that with increasing toil and sacrifice we should be able to wrest from nature the food and raw materials we need. As a matter of fact, continuously, for over half a century at least, it has taken a smaller and smaller portion of our economic resources to produce the food and raw material that we need; so that a relative and in many cases an absolute reduction of costs has taken place. In the United States only one fourth of the population is living on farms and that proportion is destined to decline. Some agricultural land is going out of use and land values are falling, relatively, both in this country and in many parts of Western Europe.

[11] "Changes in Production and Consumption of Our Farm Products and the Trend in Population," by O. E. Baker, reprinted from *The Annals* of the American Academy of Political and Social Science, Philadelphia, March, 1929, p. 2.

When we come to urban land the situation is not so clear at first sight. We notice, however, enormous economies in the utilization of this land. One of the marked features of urban development is the multi-family house in all cities, in smaller cities as well as in larger ones. An area of land that formerly accommodated one family of five will in some cases now accommodate 500 people. An area of land that would formerly have provided offices for perhaps 100 persons will now furnish room space for 1000 or even 2000 persons. The concentration of population has been such that some choice centers have reached values that seem almost fabulous. Little attention, however, has been given to land values in smaller cities where building sites can often be purchased for only a small fractional part of what it originally cost to produce them. The increase in urban land values, however, has been great in some cities while the decline of land values has been going on elsewhere. In Chicago, for example, some sections of the city have experienced an enormous increase in land values; but there are other sections in Chicago where the land values have diminished sharply. On the whole Chicago has seen a great increase in land values; but no one knows precisely the relation between increments and decrements. Researches now in progress tend to show that on the whole land-value movements are to a considerable degree wave-like, consisting of alternating heights and depressions, over a period of time. Values of New England farms were depressed when Mississippi farm lands were rapidly rising in value; and landowners in England, at the same time, were suffering from falling prices of agricultural products and falling rents. The crest of the wave, to continue the figure, has risen very high on North Michigan Avenue, Chicago, following the construction of the bridge over the Chicago River. Less attention has been paid to the relative loss in land values south of the bridge.

The study of land values brings us continually to the unknown. We may really call the economics of our time the "new economics," because the economist of the present day appreciates how inadequate his knowledge is and how necessary further researches are to give him all the facts that he needs. This is in marked contrast to the economists of the older classical school in England who

had a rounded-out system which they believed to be almost perfect. John Stuart Mill thought very little remained for the economist to do with respect to value, and Jean Baptiste Say said that the economist is not eager for facts. The modern economist hesitates to make predictions. For one thing, he knows how misleading the predictions of the past have been. Nowhere has this been more strikingly portrayed than in the case of agricultural production. Let us take one impressive illustration. In 1898 Sir William Crookes, as President of the British Association, chose as the subject of his annual address, "The Wheat Problem." He regarded this as a very serious one because, as he said, population was increasing very rapidly, and especially the world's bread-eating population, and this meant a demand for more and more land. He did not know where the wheat was to be found to supply hungry mouths with bread. At that time, he stated, we were starting out with a deficit of over 100,000,000 bushels and this deficit was going to increase constantly. He said: "It is clear we are confronted with a colossal problem that must tax the wits of the wisest."[12] At that time, Sir William Crookes claimed, the position was a very gloomy one and he looked forward to the future with little hope. In the preface to his book he uses these words:

> I have no wish to be gloomy and certainly no wish to consider myself infallible. If at the end of another generation of wasteful culture my forecast is invalidated by the unforeseen, I cheerfully invite friends and critics to stone me as a false prophet.

Alas for human fallibility! Even if Sir William Crookes were still alive we should hardly want to stone him as a false prophet; but he has been gathered to his fathers and is safe even from the attacks of malignity. In 1930 the world is confronted with a wheat problem producing great distress in the United States and ruining farmers; but it is a surplus of wheat and not a lack of it that has given rise to the present situation.

As a result of the earlier theories a great deal was said about taxing land in order to bring it into use. Now the question is not how

[12] Sir William Crookes, *The Wheat Problem* (John Murray, London, 1899), p. 15.

to bring land into use but how to put out of use the marginal and submarginal land which, owing to the influences already described, exists in such vast areas. Even in the case of urban land we have a vast overproduction of suburban land; and a serious problem has arisen, that of limiting the waste involved in an excessive supply of urban land.

In the case of forest land it is now clear that deforestation, for the purpose of producing agricultural land, has gone too far. The great land problem at present is not to bring idle land into use but to put each kind of land into its right use at the right time; to preserve as waste land that which should not be used at all, and to keep for very extensive use poor land upon which little or no capital and labor have been or should be expended. Proper proportionality, considering costs, incomes, and rate of investment turnover, is what we need in practical land policies. We should avoid waste in bringing land into use prematurely, and putting land to other uses than the best uses. In many fields researches are being conducted to find out just exactly how to plan the best use of our natural resources so that they may render us the greatest services with the least cost. The very bounty of nature aided by human ingenuity is producing distress to farmers and others because we have not yet coördinated our mastery of nature with our human relations. Further mastery of nature and improved social organization are needed to enable us to continue our technical progress in the use of land in such a way as to confer the greatest possible benefits on the greatest possible number of people.

SOCIAL IMPLICATIONS OF THE RICARDIAN THEORY OF RENT

John Stuart Mill's Ideas on Taxing Land. — A logical consequence of the older classical theory of rent, with its insistence on "natural monopoly" and upon what was called by post-Ricardian writers "unearned increment," was a system of taxation which aimed at putting all or most of this unearned increment into the public treasury. It was felt by many that the State, not the individual, ought to be the beneficiary of any increases in the value of land. Several of the classical economists, notably John Stuart

Mill, were in favor of heavily taxing the increase in land values which they considered inevitable. J. S. Mill wrote:

> I see no objection to declaring that the future increment of rent should be liable to special taxation; in doing which all injustice to the landlords would be obviated if the present market-price of their land were secured to them; since that includes the present value of all future expectations.[13]

It may be noted here that J. S. Mill's theory of taxing the "future increment of rent" exercised considerable influence in England; but when it was attempted, in the famous Lloyd George budget of 1909–1910, to impose an "increment-value" duty on land, it was found necessary completely to exempt agricultural land and small properties, and also to safeguard landowners from hardships arising from depreciation in land values.

The Single Tax Theory. — The social implications of the Ricardian theory of rent have been very influential in the United States, contributing largely to the development of the "Single Tax" theory. Henry George, the founder of the "Single Tax" movement, devoted all the ardor of a generous disposition and all the ability of a naturally gifted writer to expounding a system of taxing land values which he hoped would destroy poverty and bring about a social millennium. There could be no doubt, in Henry George's estimation, of the absolute validity of Ricardo's concept of rent. "Fortunately, as to the law of rent, there is no necessity for discussion,"[14] he writes. Not all of the premises on which Ricardo's theory of rent is based were, however, acceptable to Henry George, for he rejected outright the assumption that population tends to press against the limits of subsistence. This, he declared, had never been the evil that has afflicted mankind. "Compared with its capacities to support human life, the earth as a whole is yet most sparsely populated."[15] Land values, however, were always sure to increase by leaps and bounds in a developing community. What then is the reason for this continual increase? The answer is *speculation in land*. "The tenacity with which a

[13] John Stuart Mill, *Principles of Political Economy* (Longmans, Green and Co., New York, 1909, Ashley ed.), Book V, Chap. II, p. 819.

[14] Henry George, *Progress and Poverty* (D. Appleton and Co., New York, 1881), p. 150.

[15] *Idem*, p. 92.

speculative advance in the price of land is maintained in a developing community is well known.[16]

The author of "Progress and Poverty" believed that along with the speculative advance in land values, wages tended continually to decrease, so that the landowners became richer and richer and the workers poorer and poorer.

There is nothing strange in the fact that, in spite of the enormous increase in productive power which this century has witnessed, and which is still going on, the wages of labor in the lower and wider strata of industry should everywhere tend to the wages of slavery — just enough to keep the laborer in working condition. For the ownership of the land on which and from which a man must live, is virtually the ownership of the man himself, and in acknowledging the right of some individuals to the exclusive use and enjoyment of the earth, we condemn other individuals to slavery as fully and as completely as though we had formally made them chattels.[17]

Does this mean that Henry George condemned all private property? — Not so; for property other than land was, he thought, the product of labor, while land was the product of nature. "There is to everything produced by human exertion a clear and indisputable title to exclusive possession and enjoyment." Interest on capital was, he considered, perfectly fair and legitimate; for it was the result, not of a particular social organization but of the "laws of the universe which underlie society." To regard land as a form of capital was absurd in his opinion. To call land one form of capital is, he said, "very much as if one who proposed to teach algebra should begin with the declaration that he would consider the signs plus and minus as meaning the same thing and having the same value." [18]

Henry George saw in society an antagonism not between labor and capital, but between "labor and capital on the one side and land ownership on the other." The remedy for all social ills was, therefore, the confiscation of private property in land through the instrumentality of the "Single Tax."

What I, therefore, propose, as the simple yet sovereign remedy, which will raise wages, increase the earnings of capital, extirpate pauperism, abolish poverty, give remunerative employment to whoever wishes it, afford free scope to

[16] Henry George, *Progress and Poverty* (D. Appleton and Co., New York, 1881), p. 249.
[17] *Idem*, p. 313. [18] *Idem*, p. 31.

human powers, lessen crime, elevate morals, and taste, and intelligence, purify government, and carry civilization to yet nobler heights, is — *to appropriate rent by taxation.*

All taxation except that upon land values was, in this scheme of things, to be abolished.

The Single Tax Considered. — The single tax theory of private property rests on the assumption that individual human labor constitutes the only justifiable title to property. If this were so, how could any private property be considered justifiable? As Professor E. R. A. Seligman has well expressed it:

> Individual labor, it may be said, has never by itself produced anything in civilized society. Take, for example, the workman fashioning a chair. The wood has not been produced by him; it is the gift of nature. The tools that he uses are the result of the contributions of others; the house in which he works, the clothes he wears, the food he eats (all of which are necessary in civilized society to the making of a chair), are the result of the contributions of the community. His safety from robbery and pillage — nay, his very existence — is dependent on the ceaseless coöperation of the society about him. How can it be said, in the face of all this, that his own individual labor wholly creates anything? If it be maintained that he pays for his tools, his clothing and his protection, it may be answered that the landowner also pays for the land. Nothing is wholly the result of unaided individual labor. No one has a right to say: This belongs absolutely and completely to me, because I alone have produced it. Society, from this point of view, holds a mortgage on everything that is produced.[19]

Henry George's social philosophy was based, also, on the fundamental distinction he draws between land and capital. He takes this distinction so much for granted that he is at no particular pains to defend it. But modern economic thought is coming more and more to recognize land as a form of capital, on the grounds already discussed in this chapter. It has been shown that land, like other forms of capital, is an agent of production which owes its usefulness to human toil.[20] Land, in the economic sense,

[19] E. R. A. Seligman, *Essays in Taxation* (The Macmillan Co., New York, 1923), pp. 70–71.

[20] Even economists who, like Marshall, accept the Ricardian theory of rent in its essential features, admit that the distinction between land and capital is a loose one. Cf. A. Marshall, *Principles of Economics* (The Macmillian Co., London, 1920, 8th ed.), p. 144.

can be said to exist only in so far as it is brought into use by man, and, in this sense, the supply of land, like the supply of any other form of capital, is susceptible of increase in response to demand. Henry George, who recognized the truth of the assumption that man can, by bringing the forces of nature more and more under his control, produce the means of subsistence in quantities sufficient for his present and future needs, allowed his prejudice against landowners to lead him into logical inconsistency when he failed to recognize that this assumption is followed by the corollary that land, as a productive agent, is the result of stored-up effort, and, as such, is a form of capital.

The Practical Aspects of the Single Tax. — Perhaps the greatest obstacle in the path of those who would like to see the Single Tax applied would be the difficulty, or even impossibility, of separating the value of the bare land from the value of the improvements on it, improvements due to capital invested and to the toil of man. We have seen that it is impossible clearly to separate the "indestructible powers of the soil" from man's labor and his efforts to make land utilizable. Any attempt to distinguish bare land values from the value of improvements would most certainly result in unjust assessment. Other practical disadvantages with regard to the Single Tax are pointed out in the chapter dealing with Public Revenues. It will suffice to notice here a few of the main points relating to the practical aspects of Henry George's system of taxation.[21] One of the cardinal defects of the Single Tax would be its lack of elasticity. In every source of taxation there should be a reserve on which to draw in case of emergency or sudden need. If the total value of bare lands were taxed (assuming that this value could be ascertained), to the exclusion of all other taxation, there would be no reserve power on which to draw. The single tax could not be increased. Where nothing has been left, nothing can be taken. Even if the entire value of the land were not taken, the single tax would inevitably intensify inequalities resulting from unjust assessments, inequalities already apparent in the standards of assessments applied to real estate taxes in the

[21] See also E. R. A. Seligman, *op. cit.*, Chap. III, on which the following observations are largely based.

United States, which frequently vary from county to county, and even from property to property in the same county. As a fiscal measure, the income tax is far less susceptible to abuse and inequality of burden.

The single tax would be a precarious source of public revenue. Henry George's assumption that land values continually increase has not always been borne out by experience, either in this country or in Europe. While it is true that, in large cities, land values increase in certain localities, it is equally true that they decrease in other sections of the city.

The Effect of the Single Tax on Farmers. — The most caustic criticism of the Single Tax ever written came from the pen of Voltaire, who was familiar with the Physiocrats' idea of the *impôt unique*. The Physiocrats arrived at the same conclusions as Henry George, though by a different route. Holding that agriculture was the only "productive" occupation, the French economists of the eighteenth century advocated that it alone should be taxed. The land, when man's labor was expended upon it, produced a peculiar surplus over and above the rewards of labor and capital. This surplus, known as the "net product," included all the available revenue of the nation. All taxation, therefore, should fall on the land. Voltaire replied to this by describing the lot of a French peasant who toils laboriously to make a scanty living and suffers from untold hardship during years of agricultural distress. His piece of land would be worth an income of 40 crowns to him if it were not taxed at all. Under the single tax system he is asked to pay 20 crowns in taxation. When he fails to find this sum, he is thrown into prison. After his release he meets an old acquaintance, originally poor but now rolling in wealth and living in proud style, for he has inherited an income of 400,000 crowns a year. The peasant says to him: "You pay, of course, 200,000 crowns to the State, for I, who have only 40 crowns, must give up half of that sum!" Voltaire's irony is well displayed in the answer he attributes to the rich man:[22]

[22] Œuvres Complètes de Voltaire, Tome 57, *L'Homme à Quarante Écus*. De l'Imprimerie de la Société Littéraire-Typographique, s. l., 1785, pp. 128–131. This apt quotation was brought to our attention by E. R. A. Seligman, *op. cit.*, p. 79.

"I contribute to the needs of the State?" he said. "You are joking, my friend. I inherited my fortune from an uncle who had made 8 millions. . . . I have not one square inch of land; my whole wealth is in securities and in money. I owe nothing to the State. It is for you to give half of your substance. You, who are a landowner. Don't you understand that, if the minister of finance called upon me to assist in supporting the State, he would be a fool who couldn't even make a simple calculation. . . . If, after having imposed a single tax . . . I should still be asked for money, don't you see that this would be double counting? . . .

"You pay, my friend, you who peacefully enjoy a clear, net revenue of 40 crowns. Serve your country well, and come and dine sometimes with my lackeys."

The moral Voltaire wished to point is still applicable today; on what grounds of justice or ethics shall the landowner be singled out for taxation?

Effect of the Single Tax Movement. — One of the beneficial aspects of the single tax movement in this country lies in the fact that the followers of Henry George have been active in pointing out the theoretical and practical defects of the general property tax in the United States. "So far as the destructive side is concerned, single-taxers and other tax reformers may go hand in hand." [23] The modern single-tax movement has done much to pave the way for a more equitable distribution of taxation. Furthermore, the writings of Henry George proved stimulating and awakened a renewed interest in economic questions. As the present writer stated some years ago:

Now, one may object to Henry George's teachings — as I do most decidedly — and yet rejoice at the good which his works are doing in stimulating the thoughts and promoting the generous aspirations of the people. It would, indeed, not be an easy matter to overestimate the educational value of that one work *Progress and Poverty*. A not inconsiderable part of the wholesome growth of interest in economics is due to its publication.[24]

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[23] Seligman, *op. cit.*, p. 75.

[24] R. T. Ely, *The Labor Movement in America* (T. Y. Crowell Co., New York, 1886), p. 126.

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CHAPTER XXIII

INTEREST

INTEREST is the price paid for the services of capital. It appears in two forms: *loan interest*, the amount paid by one man to another for advances of money, and *imputed* or *implicit interest*, that portion of the value of the products of industry which is attributed or imputed to the services of capital goods, as distinct from the services of land and labor. Interest is usually expressed as a rate *per centum* of the amount of a loan or investment. Like other things which are sold or leased in an organized market, loan capital takes many forms adapted to the wants and whims of the customers, in this case the borrowers. For example, in the short-term investment market in New York during the week of January 28, 1928, call loans were made at an average rate of 3.82 per cent while loans on prime commercial paper maturing in four to six months were made at 4 per cent, and prime bankers' acceptances running for ninety days brought $3\frac{3}{8}$ per cent. The market for long-term investment loans is best illustrated by the interest yield on long-term bonds. In January 1928, three long-term U. S. Treasury bonds yielded an average rate of 3.35 per cent; fifteen municipal bonds 3.89 per cent; fifteen railway bonds 4.13 per cent; fifteen public utility bonds 4.68 per cent; and fifteen industrial bonds 4.76 per cent.

Gross Interest and Net Interest. — Net interest is pure interest — the amount actually necessary to recompense marginal waiting. Gross interest — the interest actually paid on loans — includes payments for other things. In the first place, actual interest often includes some payment for the supervision which the capitalist has to give to his investment. Even the man who "lives on his income" usually devotes some time to the investigation of the

safety of different possible investments, to the collection of interest and principal, and similar things. The net earnings of savings banks — the difference between the interest they get on their investments and the interest they pay their depositors — are partly a payment for this element of supervision.

A second element in gross interest is the payment for the risk the lender or investor undergoes of losing all or part of his expected return (including principal and interest). This does not mean, as some writers have said, that gross interest contains an element of insurance, because, when people invest money, they are not insuring themselves against loss, for no central fund exists into which premiums are paid and from which losses can be made good. The fact is simply that, as every one knows, investors will not take greater risks without the prospect of greater gains. There is some element of speculation in all investments but the very safest, and the extra income received on the more hazardous loans is *profit* rather than insurance. We live in a capitalistic age. Interest as the price of the use of capital affects every business function, vitally influences the value of every durable good, and penetrates into every nook and cranny of life where the use of capital is necessary. But this service charge, now indispensable and universal, was for centuries condemned as immoral.

Objections to Interest Taking. — It is only in modern times that interest has been generally considered a legitimate and necessary form of income. The strong denunciations of usury contained in both the Old and New Testaments are denunciations of interest taking, for the word " usury " formerly meant any kind of interest, and not merely excessive interest, as at present. The opinion of many classical writers is illustrated by Aristotle's dictum that " money was intended to be used in exchange, but not to increase at interest." During the greater part of the Middle Ages the authority and teaching of the church was set definitely against the taking of interest in any form. In the middle of the fourteenth century the prohibition of usury was incorporated in the civil law. These objections, however, had reference chiefly to loan interest, and interest on money lent for personal use at that; for capital was not thought of as one of the factors in production until compara-

tively modern times. In fact, by the fifteenth century, when opportunities for the profitable use of money had appeared in such forms as the purchase of rights to receive land rents, or partnership ventures in trade (where interest was held to be justified by the risk incurred), the canonists (the writers on church law) admitted the legitimacy not only of such gainful employments of money, but also, in many cases, of interest on loans. The justification of loan interest took on at first many curious forms. It was regarded in some cases as a fine for delay in repaying a loan, so that lenders often resorted to the subterfuge of lending money gratuitously for a nominal period, the real agreement being that they were to get back their money principal, with a fine for the delay added, at a later date. In other cases loan interest was justified as a payment for the loss of the possible gains which the lender might have got by using his money himself. Usury, which at first meant any kind of loan interest, came to mean interest on money loans to relieve personal needs, rather than for gainful employment, then interest on loans in which the element of risk was lacking, and finally, excessively high interest. Even today, many socialists insist that interest is only a result of the system of the private ownership of capital and that with the abolition of private property in production goods what is now counted as interest would become part of the wages of labor. It is important, therefore, that we should understand clearly *why* interest has to be paid, as well as that we should study the factors determining the *rate* of interest. We shall find, however, that the explanation of the necessity of interest is really a part of the explanation of the rate of interest.

Inadequate Explanations of Interest. — An idea that naturally suggests itself is that interest has to be paid for the use of money because "money can be profitably employed in business." But this assumes that interest already exists. What we want to know is why and how money can be profitably employed in business.

A similar attempt at an explanation is conveyed by the statement that interest is paid because capital is productive. By the use of capital goods, it is pointed out, the product of industry is greatly increased over what could be produced by labor and land alone. This of course is true, but it does not explain interest. The problem

of interest relates to the *value* of the product, not to the *amount* of the product. There is nothing in the mere quantity of the product, taken by itself, that gives value to it. Farmers have found more than once that a large wheat crop has sold for less in the aggregate than a small one. The real problem of interest is this: How does the use of capital increase the selling value of the product *enough to pay not only for the capital actually used up in production, but also to pay in addition a surplus in the form of interest upon the capital employed?*

How Interest Is Possible. — We shall find the analysis of our problem somewhat simpler if we divide it into parts: first, how interest is *possible;* and second, why interest *must* be paid.

Interest is possible because *capital goods under the guidance of entrepreneurs* are productive. Mere tools and machinery do not *produce value:* men have spent years in constructing so-called perpetual motion machines that are worthless. It has been shown that even land will not produce an income without the expenditure of man's energy and initiative: land will grow weeds as well as potatoes; and some gentlemen farmers spend a dollar to "produce" a bushel of potatoes which sells for 60 cents. But capital goods under the guidance of wise entrepreneurs do help to produce both things and values. It is the business of the entrepreneur to see that land and labor are used wisely; and from his point of view they are used wisely if they are used in the production of things that consumers want, and want intensely enough to pay such prices as will enable the entrepreneur to pay for the land and labor employed. Similarly, an entrepreneur will not employ capital goods in production unless the prices he expects to get for his products are such as will cover the expenses he incurs by using capital. It is possible to pay interest for precisely the same reasons that make it possible to pay wages and rents.

Why Interest Is Necessary. — Interest is possible, then, because capital goods are productive, physically and in the pecuniary or value sense. Interest is necessary because capital goods are scarce: their supply is limited. As explained in Chapter XX (page 407) we impute no "productivity" to free goods like air. They may be, like air and gravitation, indispensable to production

in the physical sense; but because their supply is unlimited we impute to them no part in the production of value.

Why is the supply of capital goods limited? For the obvious reason that it takes time and labor to produce them. The time element in their production is what we are chiefly interested in at this point. So long as the members of a community produce only what they consume directly, or so long as they spend all their money incomes for things used up immediately in the satisfaction of their wants, there will be no accumulation of capital. In order that capital goods shall be available, it is necessary that some members of the community turn aside from producing things used in satisfying immediate wants and devote their time to the production of goods that will be used in further production. Whether they do this on their own account, or whether they are paid for their work while they are doing it by others, some *postponing* of consumption is necessary. In the one case, those who produce capital goods give up temporarily the immediate satisfactions they might otherwise have procured. In the other case, those who pay for the work of producing capital goods give up immediate satisfactions. In either case, the production of capital involves the sacrifice of *waiting* on the part of some members of the community. This element of postponement or waiting is of the essence of capital, as was pointed out in Chapter VI (page 101), and, as has been shown, land, in this respect, is similar to all other forms of capital.

But why should waiting be called a sacrifice? Are not those who give up present satisfactions in order that capital goods may be produced fully repaid if they get back as much as they give up? Why should capital not be furnished for productive purposes if those who furnish it get back an exact equivalent? *Why should an additional payment, in the form of interest, be necessary?*

Time Preference. — The answer is found in time preference. In general we appraise the present use of wealth higher than its future use. We visualize the present more vividly than we do the future; we yield sometimes to the temptation of satisfying the more trivial wants of the present, even when we know that we are thereby rendering uncertain the satisfaction of more important wants in the future; and when we take considerable periods of

time into account, we may say that the uncertainty of life itself gives us some rational ground for preferring present to possible future satisfactions. Notwithstanding the vast difference between civilized men and savages in this respect — for many of the latter seem to have absolutely no regard for future needs — the fact still remains that waiting is a sacrifice. To induce saving in the volume required for capitalistic production, a premium or reward for waiting has to be paid in the form of interest. This fact is the most fundamental thing in the explanation of interest.

It must not be inferred that, in the actual economic life of today, *no capital* would be supplied if interest were not paid. Other motives induce men to save parts of their incomes. The desire to provide for old age and for such contingencies as sickness and accident, or to make provision for one's family in case of death, would result in a considerable amount of saving. The mere pride of accumulation, and the fact that the satisfaction of many important wants, such as the desire to own a house, or the desire for foreign travel, necessitate the gradual accumulation of what is to most persons a considerable sum of money, must also be given due weight. *But none of these motives would in itself induce men to invest their savings in productive undertakings if no interest at all were paid. The savings might just as well be hoarded.* The investment element is essential. We use the words " waiting," " time preference," " postponement," as including or connoting this idea of sacrificing immediate use or possession by investment, as was emphasized in the definition of capital given in Chapter VI. But a very low rate of interest would bring about investment in productive undertakings. Even this low interest rate, however, would be sufficient to balance, in some additional cases, the difference between the intensity of present and future wants. In a similar way every increase in the interest rate would induce more persons to save.

At any given time, accordingly, the interest rate is considerably higher than is necessary to induce a large part of the waiting that devolves upon those who furnish capital funds for productive purposes. It is just high enough, however, to compensate for *marginal waiting*, which is the waiting that would not take place

if the interest rate were any lower. If the interest rate is 5 per cent, a dollar today is worth a dollar and five cents a year from today, not to all savers, but to the marginal savers.

The Demand for and the Supply of Capital. — In the preceding pages we have mentioned some of the controlling factors of the demand and supply which determine interest as the price of the use of capital — particularly capital in the liquid form of loan funds.

The principal part of the demand comes from the business world where loans are needed for new enterprises, for the development of established concerns and the replacement of worn-out material; to finance trade and so on. In addition, the consumers demand capital; to build residences to be occupied by their owners, to meet emergencies arising particularly in times of sickness and death, and to satisfy the fleeting extravagances of wastrels. Governments, too, make very large demands for capital and use the funds partly for production (*e.g.* the reclaiming of land), partly for consumption (*e.g.* facilities for public recreation), and in very large part for military preparation and war.

It is difficult to say of what the marginal demand consists. At times it appears to come from speculators who frequently pay as high as 12 or 15 per cent for call loans and take such loans in large volume. Or it may come from those classes who perhaps constituted the principal borrowers in medieval days when interest was condemned as immoral — spendthrifts or those necessitous borrowers upon whom the loan-sharks prey. In these cases, it is not the productivity of the loan which makes it possible to pay interest. Many of these loans are never repaid. When they are repaid, it is frequently from subsequent saving. This calls attention to the enormous amount of borrowing now done as a method of saving. Many unusually thrifty people borrow to buy bonds, gradually clearing off the debt by later savings. This use of loans was popularized by the liberty loan campaigns of the war. Whoever may constitute the marginal "demanders" this much may be said: it is "productive" use which makes it possible to pay most of the interest which is paid; and the withdrawal from the loan market of the "productive borrowers" would exercise a

greater immediate effect upon the interest rate than the withdrawal of all other borrowers combined.

When considering the various classes of people who supply capital, we begin with the small class of savers who — if necessary — would *pay* some trustworthy custodian to keep their savings for them, *i.e.* who would take negative interest rather than make no provision for future want. Then comes an important class of savers who are bent upon putting aside enough money before they die to leave their families with a minimum income, the amount of which is more or less definitely fixed in their minds. Such people will actually save more when interest rates are low than when they are high. Authorities differ about the extent and importance of this class of savers. But even this class saves largely because interest is paid. They may save more when the interest rate is 4 per cent than when it is 5 per cent; but it is highly improbable that they would save more if the maximum interest rate were 1 per cent. As stated above there must be some compensation for marginal waiting.

The enormous supply of capital at the disposal of the demanders is shown in Table V, at the close of Chapter VII. In 1925, for instance, savings deposits in all banks grew by nearly two billion dollars. Building and loan associations increased their assets by $743,000,000. Through the life insurance companies $3,387,000,000 less the expense of running the insurance companies concerned were saved, and corporations plowed back nearly three billions into their business.

The several constituent elements of demand and supply may be combined into hypothetical schedules of potential demand and potential supply which, when presented graphically take the familiar form used in Chapter X (page 177) to illustrate the interaction of demand and supply in fixing the price of consumption goods. Figure 1 following does not rest on a statistical basis and is purely illustrative. The supply curve starts below the horizontal axis, illustrating negative interest and the small potential supply of capital to safeguard which the savers would, if necessary, pay something to a trusted custodian. In this diagram *ir* equals the rate of interest. The curves of demand and supply are shown to

be comparatively inelastic, and there is some reason to believe that they are, under average conditions, relatively inelastic. But market conditions differ radically from time to time. On this account and for other reasons the figure can only be regarded as a graphic summary of the text.

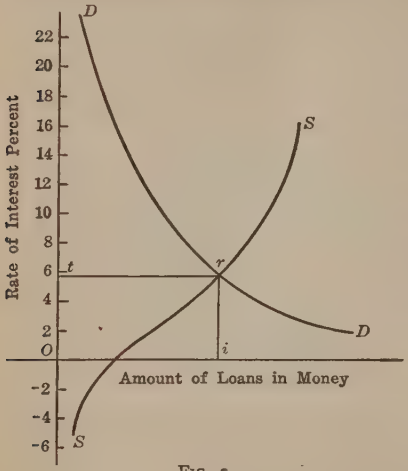

FIG. 1

The Rate of Interest. — In the preceding sketch of the factors which determine the interest rate, nothing has been said about the effect of money upon the interest rate. In the past, recurrent agitations have arisen for "more money" or "cheaper money" based largely on the belief that interest (as the "price of money") would go down as the quantity of money available went up.

The belief that in the long run a larger volume of money will bring about lower interest rates has practically no foundation. A sudden increase in the available supply of money may have that effect, although even in the short run different results may follow. But in the long run, any permanent increase in the volume of money results in higher prices and not in lower interest rates. The purchasing power of money declines. There is no reason why interest, the agio or percentage premium for the use of dollars, should be different for cheap dollars than it is for dear dollars. Any force which affects in the same way numerator and denominator of the fraction which (in percentage form) constitutes the interest rate, cannot affect the rate itself.

Fluctuations of the Interest Rate. — Paradoxically, two outstanding characteristics of the interest rates are constancy and

variability. Taking a long-time view their constancy is what impresses one. It is difficult to make wholly trustworthy comparisons of the rates that have prevailed at different periods, because some important conditions, such as the amount of risk attached to particular types of loans, are by no means constant. Furthermore, interest rates are generally higher in a country where capital is relatively scarce and productive opportunities relatively plentiful — as in the United States before the Civil War — than in a country where the supply of investment funds is relatively large, — as in England at the same period. In Holland — then one of the leading commercial nations — rates of interest in the seventeenth century were as low as 3 per cent. In England during the eighteenth century rates were, on the whole, not far above what they were during the nineteenth century, although a definite general trend downward is noticeable. The change has been small as compared with the revolution in methods of production and the enormously increased use of capital in industry. *It would seem, therefore, that in seeking an explanation of the movement of interest rates through long periods of time we must attach especial importance, not to the "productivity" of capital, nor to the changing effectiveness of roundabout, capitalistic methods of production, but to the persistent traits of human psychology.* "Impatience," "time-preference," "the sacrifice involved in waiting," are terms different economists use to express this enduring and apparently fairly constant element of human nature.

Looking at shorter periods of time, however, interest rates are found to exhibit marked fluctuations. In particular they advance in periods of rising prices and decline when prices fall, although generally their movement lags somewhat behind the movement of prices. Such fluctuations, as we have seen, occur in connection with business cycles. At one period in the cycle surplus bank reserves create a supply of potential investment funds, but under the pressure of the demand created by advancing prices and profits interest rates rise until such time as the slackening of demand gives bank reserves again an opportunity to recuperate. Then a period of low rates generally ensues until prices and profits move upward again.

The real gains made by the money-lender, however, are often less when prices and interest rates are advancing than when they are declining. For the increase in the interest he is able to get is usually less than the shrinkage in the purchasing power of the principal of his loan or investment. In August, 1923, the discount rate of the German Reichsbank stood at 24 per cent. That rate seems extremely high, and yet because of the rapid decline of the purchasing power of the mark, a loan for 30 days made at 24 per cent per annum would have involved a loss to the lender.

Banks and the Supply of Investment Funds. — What has just been said above about the influence exerted upon interest rates by the state of bank reserves may possibly suggest to the reader that some modifications are necessary in the general theory of interest that has been outlined in this chapter. The amount of money available for bank reserves, together with the extent to which the general organization of a country's banking system makes it possible to erect a structure of credit upon the foundation of the available bank reserves, may seem to be quite as important in determining the amount of the supply of investment funds as is the amount of voluntary saving. Such a view would be both right and wrong. It is wrong in that it fails to take account of the fact that in the long run increases in the supply of bank credit, like increases in other forms of purchasing power, are absorbed in higher prices. In the end the net effect of a permanent increase in the supply of bank credit is that both capital goods and consumption goods command higher prices. Other things being equal, there will be no change in the amount of present goods that must be sacrificed in order to secure a given quantum of future goods.

The real significance of banking in its relation to the supply of investment funds is that it profoundly modifies the mechanism by which savings are actually effected. Business profits are probably the most important single source of investment funds. In periods of advancing prices and advancing profits a relatively large proportion of the national income is invested in capital goods rather than expended for immediate satisfactions. This does not mean that in such periods entrepreneurs as a class are making unusually heavy sacrifices by "saving." Quite otherwise. Such

curtailing of consumption as occurs in such periods falls very largely upon other classes. High prices are the mechanism by which the burden of saving is spread over the whole body of consumers; and the way in which that burden is apportioned depends upon the way in which the money incomes of different classes of consumers are affected by the advance of prices. Just as monetary inflation at the instance of the government involves a disguised form of taxation, so cyclical expansions of bank credit involve a disguised form of involuntary saving. Although this is a "short-time" phenomenon its long-run effects are by no means negligible. The capital goods produced and accumulated in a typical business cycle are quite certainly somewhat different in kind and probably considerably greater in amount than would have been produced and accumulated in the same period if there had been no cyclical movement of credit, prices, and profits. Banking, therefore, as at present conducted, probably has the net effect of accelerating the rate at which capital is accumulated.

The Replacement of Capital. — The preceding analysis makes it clear that saving is a prerequisite to the formation of *new* capital, that is, to an *increase* of the supply of capital goods already in existence. We must, however, take into account the fact that almost all kinds of capital goods are continually being used up in production. This using up may be the result of a single use, or it may be a gradual wearing out.

There is no reason why unproductive capital goods should be kept intact in amount. He would be a foolish business man who would keep reinvesting a certain amount of money in raw materials in the face of a diminishing demand for the finished product. Even when profitable, capital goods used up need not be replaced unless the entrepreneur so chooses. A farmer may have saved for years in order to buy a reaper. The reaper will enable him to raise more wheat or to produce the same amount of wheat at less expense. In either case, it will mean an increase in his net money income. He may, if he chooses, set aside enough of this added income so that, when the first reaper wears out, his accumulated funds will replace it. From one point of view we may say that in this way the reaper "replaces itself." But the farmer may, if he prefers, use all

of his increased income in the purchase of additional comforts and luxuries for himself and his family.

Similar illustrations can be found in other fields. Many business enterprises have failed because business men have "lived beyond their incomes" — which often means simply that they have not replaced their income-yielding capital as rapidly as they have used it up. At one time it was possible for American railways to maintain a specious prosperity for years by paying "unearned dividends"; that is, by letting their capital (roadbed, rolling stock, buildings, etc.) deteriorate through not expending enough of their gross income in the maintenance of their way and equipment.

The stock of capital goods in existence at any one time is the result of past saving. *But this stock of capital goods cannot be maintained intact without more saving.* From this point of view we may say that the sacrifice of present satisfactions for future satisfactions which society undergoes in order to reap the advantages of capitalistic production is not something done "once for all," but is a continuous sacrifice.

Even if a fixed and definite annual sum were devoted to maintaining the stock of capital goods, it would not wholly be used in replacing the particular sorts of capital goods that had been used up in production. Entrepreneurs often prove to be mistaken with respect to the profitableness of using certain sorts of capital goods. New inventions or new methods of production may upset their calculations, and capricious changes in demand may have a similar effect. Even if there were no *increase* in the aggregate stock of capital goods, there would be a continual shifting from the less to the more profitable forms. The ease with which investment can be shifted from some sorts of capital goods to others, the nicety with which the supply of different varieties of capital goods can be adjusted to the current demand for the products to which they contribute, as well as the accuracy with which the aggregate supply of capital goods of all kinds can be adjusted to changing economic conditions, depend in part upon the degree to which capital goods are (*a*) specialized, and (*b*) durable.

Specialized and Unspecialized Capital Goods. — Specialized capital goods can be used only for one purpose. A railway road-

bed or an irrigation ditch is absolutely specialized. It is useful only for the particular purpose for which it was constructed. If the railway or the irrigation project should fail, the money put into constructing the roadbed or digging the ditch would be completely lost. A manufacturing firm may install expensive specially designed machinery. If the new machines prove unsuccessful, or if their intended use proves unprofitable, their money value may sink to what they will sell for as scrap iron.

Unspecialized capital goods are found in the forms of tools and machines of standard models that may be used in different industries, raw materials that can be made up into different varieties of finished products, and the like. The distinction here emphasized is only one of degree. Some capital goods are partly specialized, in the sense that they are better adapted for some uses than for others. Buildings intended for office purposes are sometimes finally given over to small manufacturing concerns. Or a building intended for a factory may serve fairly well as a warehouse.

The Durability of Capital Goods. — It has been seen that some forms of capital goods are destroyed (as capital) by a single use. The fuel and raw materials used in a manufacturing establishment and the merchant's stock in trade belong in this category. The merchant's stock in trade becomes consumption goods in the hands of consumers; raw materials reappear in the finished product, as do other sorts of capital goods for that matter, although in a less obvious sense. These particular forms of capital investments yield their services only once, and when they are once used they cease to be capital, even though they may have successors in new forms of capital goods.

From such transient forms we may pass by insensible gradations to capital goods which yield a long succession of services, the series culminating in such durable forms as buildings used for productive purposes, or railway roadbeds. If a particular sort of capital goods lasts exactly a year — the period usually taken as a unit in computing the rate of interest — estimating the expense of using it is a simple matter. If, for example, the rate of interest which an entrepreneur sets as his minimum is 9 per cent, he will not invest $1000 in such capital goods unless he estimates that it will

increase his product by an amount that will sell for at least $1090.

In the case of the more transient forms, however, the computation is usually made by taking into account the "rate of turnover." If the raw materials a manufacturer purchases during a year cost $3000, but if, on the average, only $1000 is invested in raw materials at any one time, the capital is said to be "turned over" three times during the course of the year. The interest rate is computed only on the average amount of capital "tied up," so that interest of 3 per cent on each turnover would amount to 9 per cent on the actual investment.

In the case of the more durable forms of capital the computation is more complicated. Here the entrepreneur has to take into account not only the original cost of the capital good and the amounts which it will add to his annual products, but also its durability; and the fact that a large part of the income which it will earn for him is *future* income. This future income, as we have seen, will not be appraised so highly as the same amount of present income would be.

Capital and Wages. — Wages are commonly advanced to workmen before the goods they produce are sold. A farmer, for example, has to pay his harvest hands before he sells his wheat. Whether he borrows the amount needed for wages, or whether he pays it out of his own savings, interest on the amount advanced has to be counted among the expenses of production, and the wages advanced are, for the time being, an investment. In most manufacturing establishments a more or less lengthy average period of time elapses between the work actually done by the workmen and the sale of the products of their work. In such establishments a considerable amount of capital is invested in wage advances. This does not mean that we are to consider the laborers as being in any sense capital goods. For the gradual process by which the raw material becomes the finished product is itself a continuous investment of capital. *All of the various expenses of production are really different ways of investing money in capital goods.* Add to the cost of the raw material all of the expenses (including wages and payments of rent and interest as well) incurred in order to produce the finished product of the establishment, and the sum is simply the total in-

vestment in capital goods in the form of the finished product. A complete inventory of capital goods would include then (in addition to buildings, machinery, etc.) not only raw materials and the finished products that are ready for sale, but also the products on hand at any one time in a partly finished state. Thus the payment of wages is only one of the ways in which money is invested in capital goods.

Investment a Cumulative Process. — Not only, as we have seen, does the entrepreneur invest in such things as machines and buildings, but his purchases of raw materials, his advances of wages to laborers, the interest he pays on borrowed funds, the rent or purchase price he pays for his land, and his various competitive selling expenses are also investments. No such investments can be regarded as remunerative unless the entrepreneur gets in the selling prices of his products enough to provide interest upon such outlays as well as to cover the outlays themselves. These facts have already been noted, but the full significance of the rôle which capital plays in production does not appear until we view the activities of the individual entrepreneur as only a link in a continuous chain.

The point of special significance is that the finished products sold by some entrepreneurs constitute the capital goods (raw materials, productive appliances, advertising media, etc.) bought by other entrepreneurs. When one entrepreneur sells his products to another entrepreneur, his period of *waiting* is completed, so far as the production of these particular units of goods is concerned. But the waiting is only transferred to the other entrepreneur, who adds further expenditures of money and, in turn, gets his remuneration from the sale of his product. The important conclusion to which this analysis leads is that (so far as entrepreneurs have been accurate in their estimates) the prices consumers are paying today for finished goods cover not only all the money expended in the past in producing these goods, but also the interest on all such expenditures from the time they were made up to the time the finished goods are sold to the ultimate consumer.

Similarly the expenditures entrepreneurs make today in producing goods that will directly or indirectly satisfy future wants

must (so far as these entrepreneurs and the others who will control the remaining steps in the productive process are accurate in their estimates) be covered, together with accrued interest, by the prices consumers will pay in the future. Present wants are satisfied by means of the productive efforts of the past. Those productive efforts were paid for out of past income, but the outlays were made in the expectation that present prices would suffice to repay them, with interest. A particular entrepreneur may be interested only in disposing of his product at remunerative prices to the entrepreneurs who stand next to him in the productive series, but this does not affect the essential nature of investment, which, from the social point of view, is a cumulative process.

One further fact appears clearly: If we could trace the expense of producing any consumption good back through all the long series of services and of production goods that have contributed to its making, we would find that this expense reduces itself, ultimately, to *rent*, *wages*, and *interest*, not counting what remains in the hands of entrepreneurs as profits.

The Sources of Investment Funds. — The most important source of investment funds and the most important form of investment is found in the entrepreneur's customary practice of putting a large part of his gross income back into the business so as to maintain his investment intact as a whole. The effect of the control exercised over business policies by modern accounting is to strengthen this practice. The capital assets of a solvent business corporation, it is expected, will at the very least be maintained at a constant level. Their maintenance and replacement is counted as part of the current expense of conducting a business undertaking.

It rarely happens, however, that income and expense are so evenly balanced that the one always suffices to provide for the other. A temporary surplus may be followed by a temporary deficit. Borrowing at the banks helps to smooth out some of these irregularities. Moreover, while the entrepreneur need not continue to renew his capital investments unless he chooses, he is at liberty to do even more than that if he pleases and if he is able. That is, his *profits* — the excess of his gross income over his necessary and normal expenditures — may be drawn upon to increase

his investment. Savings of the type described in the preceding paragraph serve merely to maintain and replace the country's stock of capital goods. Savings made out of profits result in *additions* to that stock. Business profits are today the largest single source of new investment funds. Dr. W. I. King, in a study of the total amount of saving in the United States from 1909 to 1918, concludes that " the business enterprises of the country are normally responsible for about 40 per cent of the entire saving of the nation," although, he adds, " this percentage increases in years of business prosperity and diminishes in times of depression." [1]

Such statistical data as are available show no correspondence between interest rates and the volume of corporation savings. Interest rates rose from 1919 to 1920, but corporate savings fell off. Again, interest rates were lower in 1922 than in 1921 but the volume of corporate savings probably increased more than threefold.

Corporations do not build up surpluses to take advantage of high interest rates, but for entirely different purposes: to stabilize dividends; to make extensions and for a variety of other purposes not connected with the interest rate. Above all corporations save when they can, in other words, when they are prosperous. On this point the statistical evidence is convincing. Both individual and corporate savings increase with prosperity. The well-to-do save a larger proportion of their incomes than the poor. But both rich and poor save more when times are good. The fact is significant in many connections. It supports the conclusion, based upon substantial evidence, that in prosperous countries capital grows, if not checked by war, at an accelerating rate.

The connection between prosperity and capital accumulation should not, however, be misinterpreted. By prosperity we do not mean speculative booms. Even the speculative boom may accel-

[1] W. I. King, "The Net Volume of Saving in the United States," *Journal of the American Statistical Association* (December, 1922), Vol. XVIII, p. 470. The proportion of the total supply of investment capital that is contributed by business profits is in our opinion larger than Dr. King's figures indicate. His estimate of the total volume of saving includes the net increase of the stock of durable consumption goods, and his estimate of the amount of "business savings" does not include profits that are reinvested after being "taken out" of a business, *e.g.* in corporation dividends.

erate saving by a process of compulsion, as has been shown, and it is possible that the new or additional saving may not be wholly lost in the following period of depression. But such increase in capital is bought at the price of an inequitable redistribution or concentration of wealth and of a contagious dissemination of unwholesome speculative habits.

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CHAPTER XXIV

PROFITS

The Nature of Profits. — Modern production is for the most part based upon estimates of future conditions. The manufacturer today does comparatively little custom work, or work on the " cost plus " basis. Usually he estimates as nearly as he can the probable future prices of the commodities in which he is interested, estimates also the probable cost of acquiring or producing such articles, and if the difference between the estimated price and the estimated expenses of production is large enough to justify the trouble, expense, and risk of production, he undertakes production. This work of forecasting future conditions, of deciding whether they justify production, of assuming responsibility for the speculative risks of the venture, and of assembling or manufacturing the goods — with all that the latter implies in the way of organization and superintendence — is the essential function of the entrepreneur. The compensation or return which the entrepreneur looks forward to is *profits*.

On first analysis, profits thus appear as primarily a residue or surplus of prices over expenses of production. Any particular entrepreneur — or at least the average entrepreneur who does not enjoy a monopoly — accepts the probable future price as determined in the main by forces beyond his control, and strives merely to bring his expenses of production within this limit. But in the long run this residue or surplus must be large enough to compensate the entrepreneur for the labor and capital he devotes to the business and for the risk which he assumes. Unless their expectations are borne out, entrepreneurs will eventually leave the industry, output will fall, and prices will increase. For the short run, therefore, prices in the main determine profits, the latter being " leavings above costs." In the long run, however, profits figure as an

expense of production, and as such exercise an important influence in determining prices.

Different Meanings. — The term *profits* is used with many differing meanings, not only by economists but also by accountants, lawyers, and business men. We recognize here four categories of profits: (1) By the simple term *profits*, or *ordinary profits*, we mean the difference between the entrepreneur's gross income and the actual or contractual expenses of producing or winning that income. Ordinary profits thus include, along with other elements, the remuneration for the entrepreneur's own labor, land, and capital, or what we have called *imputed* wages, rent, and interest. (2) By *business profits* we mean ordinary profits less the wages imputed to the entrepreneur, frequently called "wages of management." Owing to the dominating importance of the corporation in modern business, this category of profits, which excludes imputed wages but includes imputed rent and interest, has become perhaps the prevailing type of profits in American usage and discussion. As used by many accountants, business profits include interest on the long-dated or secured debts of the enterprise — *e.g.* interest on bonds is treated as part of business profits. Unless otherwise stated, however, we shall use the term *business profits* as including imputed interest, but as excluding interest paid or payable to others. (3) By *minimum profits* we mean the sum of the imputed wages, rent, and interest. This can be roughly measured by estimating what the entrepreneur would receive if he sold his services and lent his capital (including land) to others. This is an important category, because for most purposes an amount approximately equal to minimum profits should be included among the expenses of production. (4) The final or residual element in profits — the difference between minimum profits and ordinary profits — is here called *pure profits*. Whether, for society as a whole and in the long run, pure profits should be treated as an expense of production, or whether from the same standpoint they represent a minus quantity or a substantial quantum, are debatable questions briefly discussed hereafter.

At least four ways of measuring profits may helpfully be distinguished. Business profits are usually measured with reference

to the invested capital (including the investment in land). Thus we say that the profits of commercial banks average 9 per cent, or that 10 per cent represents a fair profit or return on the investment in manufacturing industries. It is this possibility of measuring profits as a percentage of the invested capital which makes business profits perhaps the most significant of the many varying categories of profits employed in general discussion. Ordinary profits and pure profits, as well as business profits, may also be measured either with respect to specified units of product (*e.g.* profits per bushel of wheat), or with respect to sales (usually per $100 of net sales). Each method of measurement has its peculiar advantages and its peculiar difficulties. The measure based on sales is particularly serviceable because trustworthy information regarding the invested capital is frequently lacking and the allocation of profits to specific products is often impossible. Profits per unit of product are particularly difficult to measure in the case of joint products, because of the difficulty of allocating joint costs to specific products, and some of these difficulties are noted elsewhere.[1]

In connection with this brief discussion of terms, it may be pointed out that profits differ when surveyed from the individual and social points of view. The profits of one entrepreneur represent costs or expenses to another, and from the social standpoint, particularly in the long run, most profits may better be surveyed and treated as rent, wages, or interest. From the social standpoint, also, many, if not all, of the losses of unfortunate entrepreneurs must be set off against what frequently seem to be the excessive profits of the successful. If, for instance, we are trying to decide whether the profits won by prospectors for oil and mines are such as to justify the special concessions granted to those pursuits under the federal income tax, we should not confine attention to those who have been successful, but should pay considerable attention to the losses of those who have failed. Finally, for many practical purposes it is more helpful to know the profits of an industry or a process than the profits of particular entrepreneurs. If, for example, we want to know the profits derived from the production of anthracite coal, or the profits entering into the price of anthracite

[1] See pp. 207–209.

coal, we cannot neglect the element of profit entering into the royalties paid on anthracite coal lands. One mining company may own the land it uses and pay no royalties; another may use land belonging to others and most of the surplus of price over expense or cost may go to the landowner as rent or royalty. For practical purposes here, we should combine the landowner with the operator to measure the "profits" which the public is seeking to ascertain.

Entrepreneurs' Wages, Rent, and Interest. — Ordinary profits, being a surplus, do not constitute a homogeneous income determined by any one principle or set of principles. They are the resultant of all the forces that tend to bring about inequality between the prices paid for things and the contractual or actual expenses of producing them.

Ordinary profits obviously include something closely akin to wages. The entrepreneur not only assumes responsibility for the general organization of the business — for the general coördination of land, labor, and capital — but usually does much of the managerial work, and sometimes, as in the case of the farmer, a considerable amount of ordinary labor. The return for this contribution of time and effort is often called "wages of management." In many respects it is like ordinary wages, but it is also different from ordinary wages. It is attended or characterized by a different kind of risk. The hired laborer or the hired executive gets his stipulated wages. The typical or representative entrepreneur must doubtless get his wages of management in the long run, but he runs the risk of having to close down his plant and a further risk of sustaining a loss even in the years of active business. And some entrepreneurs actually earn less on their own account than they would receive if employed by others. Many entrepreneurs delegate nearly all of the managerial and executive work to others. But there are some final decisions and responsibilities which the entrepreneur cannot delegate. He must at least take the pains to select managers or officers and negotiate terms of compensation with them. There are ultimate decisions which only the entrepreneur can make; ultimate risks which the entrepreneur can neither insure nor shift to bondholders or other creditors. And

what has been said about wages of management or imputed wages applies even more strongly to imputed interest and imputed rent. In any particular year the entrepreneur assumes a greater risk of losing rent and interest altogether than the man who hires to others his capital or his land.

Profits as Part of the Expenses of Production. — It is plain that the entrepreneur will not continue to perform his function unless he receives profits approximately equal to what have been called minimum profits, covering imputed wages, rent, and interest. The reasons for using the qualifying term "approximately equal" are significant. Some men would prefer to be their own masters even at a smaller income than they could receive by hiring their capital and services to others; while other men would shrink from the responsibilities of an independent business life even if a larger income were attached to it. While it seems plain, therefore, that prices must in the long run cover minimum profits and the other expenses of production, we cannot really measure minimum profits; they can only be estimated, and the estimate is at best an approximation. It is this fact which gives reality to the category of ordinary profits: to put your time and capital "at the risk of the business" is in fact not the same as selling or hiring them at stipulated rates to others. There is possibly no other difference between ordinary profits and the other forms of income than this: imputed wages, rent, and interest are placed at the risk of the business in a sense and degree to which contractual wages, rent, and interest are not.

A somewhat similar answer must be given to the question whether pure profits must be counted among the expenses of production. The uncertainty here arises from the fact that we do not know whether in the long run pure profits are a positive quantity, a negative quantity, or merely negligible. The nature of pure profits is more fully discussed below, but it is obvious that they consist in large part of compensation for assuming certain unavoidable and non-insurable risks. From the social point of view, the desire to be one's own employer is so strong and the lure of high profits such a powerful incentive, that it is possible that in the long run entrepreneurs actually receive something less than minimum

profits as above defined. Thus investigations of farmers' profits indicate that the American farmer in the long run does not receive even fair wages for his work and fair interest on his capital (including land) used in farming. To cite another illustration, it is generally believed and is probably true that the losses sustained in gold mining exceed the profits derived therefrom. And the extent of entrepreneurs' losses in modern business are little appreciated. Probably the world has never known, on a large scale, a period of more feverish prosperity or of more colossal business profits than that enjoyed by the United States in the four years 1916–1919. But in those four years the corporations of the United States reported to the Bureau of Internal Revenue net deficits aggregating $3,000,000,000, which constituted about 8 per cent of the total net income reported by the corporations showing a positive net income. In poor years, of course, the proportionate loss is very much greater. From the social point of view and in the long run, it is probably true that pure profits are a negligible, or possibly even a negative, quantity.

To the question whether pure profits must be considered as part of the expenses of production (which, as was pointed out in Chapter XI, register and in part determine normal price) we arrive accordingly at a somewhat paradoxical answer. From the standpoint of the individual entrepreneur, under a system of private property and enterprise, pure profits would seem to be a particularly necessary and essential part of the expenses of production. Risk, uncertainty, responsibility: these are disutilities for the assumption of which payment in some form would appear to be unavoidable. But it is more important that pure profits should be obtainable than obtained. To induce even the most intense competition for a prize it is not necessary that each contestant should receive a prize. Considered from the social point of view, as a share in the social dividend, pure profits probably do not exist, as a positive quantity. In the aggregate, society probably secures the services of entrepreneurs without paying them anything additional to what would be regarded as a fair estimate of minimum profits. But the chance of securing pure profits must be held out to the individual entrepreneur as a possible and legitimate reward for keeping his

expenses of production below the prices which he can secure for his product. If the current rate of interest on government bonds is 5 per cent, then it is generally acknowledged that, say, 7 per cent is a fair business profit which a public utility corporation is entitled to earn. The precise rates just mentioned are not material; the significant point is that a material margin over interest is recognized as both legitimate and necessary. That margin roughly measures pure profits. Taking the public utility companies as a group, however, it may be found that they are not earning more than 5 per cent upon invested capital in the long run. Collectively considered, therefore, there would be no margin. Pure profits are at once necessary and probably non-existent. They represent a potential expense of production to the individual entrepreneur which probably does not constitute an actual social expense of production.

The Sources of Pure Profits. — Pure profits arise because competition does not work perfectly; because people do not always know and are not always alert to seize the most advantageous course open to them either as producers or as consumers; because there are such things as fads and fashions and changes in the quantity and quality of wants; because the system of competitive prices is neither a stable nor a thoroughly consistent structure; because, in short, room is left for business enterprise. There are two general sources of profits: (1) inconsistencies, incomplete adjustments, in the general price situation as it exists at any one time; (2) *changes* in the general price situation in an interval of time. But (3) in most business operations these two sources of profits are blended. And yet it often happens that profits are derived entirely from one source or from the other.

1. We shall consider first those transactions in which buying at one price and selling at another are for the profit-seeker practically simultaneous operations. Risk, *on the individual transaction*, is eliminated. But there remains the risk that, if one makes this type of profit-seeking one's vocation, the aggregate gains may not amount to enough to compensate for expenses and for the use of one's time.

Profits of this sort are found in many real estate operations, in transactions conducted by brokers in different fields, in arbitrage

transactions in foreign exchange or securities or produce, and, naturally, in a large variety of miscellaneous isolated transactions. There is no reason to believe that the aggregate amount of pure profits of this sort is large. Where large margins may exist between buying and selling prices (as in the case of works of art, and other non-reproducible goods) or where the aggregate volume of transactions is so great as to make even small differences in prices significant, intermediaries and go-betweens multiply, and competition tends to pull their (annual) profits down to an entrepreneur's wage, or less.

2. More important as an *independent* source of profits is the difference between the price situation at any one time and the price situation at some later time. A very common profit-seeking operation consists of buying things now in the hope of selling them at a higher price in the future, or of selling things now (for future delivery) with the expectation of securing them at a lower price in the future. The larger part of "speculation" in real estate, in produce, and in securities, is profit-seeking of this type.

Risk always attends such operations. The speculator may prove to have been mistaken in his analysis of the general situation, or new and unforeseen factors may enter. Losses rather than profits may result. This is a common result of competition in profit-seeking. Other speculators will in most cases have seen the same opportunity for profits. By buying now in large quantities for speculative purposes they are sure to increase present prices. Similarly, by selling at a later date they are equally certain to make prices lower than they otherwise would have been. The chief economic service of speculation, in fact, lies in its tendency to lessen fluctuations in prices. But the thing may be overdone: future prices may be forced down to a point where the expected profits are turned into losses. And, *mutatis mutandis*, the same considerations hold true of "bear" operations, on the other side of the market. The possibility of being caught in a price movement of this sort, resulting from over-speculation, is one of the ordinary risks of this kind of profit-seeking.

3. In most cases, as we have said, the two general sources of profits are blended. The great mass of business transactions are

not so simple as those we have just considered. Profits are sought, not merely by buying one thing and then selling it, either immediately or at some other time, but also, and more generally, by buying certain things and then using them, combining them, in such a way as to get a *new* salable product, or at least a product to which new qualities have been added. In agriculture, manufactures, and commerce generally, the entrepreneur buys some things — labor, land or its use, capital goods in various forms, advances of loanable funds — and sells other things — the commodities or services that are his " products."

The inconsistencies and maladjustments in the general price situation of which he tries to take advantage are, in short, the differences between the prices he has to pay for the things he uses in making and selling his products and the prices he gets for his products. If competition worked with absolute promptness, smoothness, efficiency, things would sell at prices equal to their expenses of production, and the most the entrepreneur could get would be minimum profits.

The time element, involving the possibility of gains (or losses) from price changes, also enters in, because most of the expenses of production are incurred either before or (in the case of contracts for future delivery) after the price which can be got for the product is finally determined.

Profits for the Industry and Profits for the Establishment. — We must note at this point an important difference between the production of standardized goods — where one establishment's product is like another's — and the production of goods or services which are marked off or distinguished as the output of particular establishments.

In agriculture, for example, standardized products are produced for a general market. If certain farmers make larger incomes than their neighbors, it is generally because they are more efficient farmers and earn a larger minimum profit. This may show itself in two ways. First, a good farmer will get a larger product with a given expenditure. He will apportion and use his productive agents to better advantage. Second, because he gets a larger product by means of a given expenditure, he will be able to push

his expenditures further before coming to the margin beyond which it will not pay him to go. That is, he can advantageously "farm on a larger scale" than his less efficient neighbors. But while these advantages increase his income, they do not, in themselves, create pure profits.

If the farmer gets pure profits, it is because he has successfully tried some new crops or some new methods, or because he has been individually fortunate in some other way, or because he *and other farmers* have been able to sell their crops at profitable prices. This last point is the important one. In agriculture and other industries producing standardized products for a general market, by far the most important profits (and losses) are those which come to the industry *as a whole*. Except for the effect of such things as local droughts or frosts or blights, when the wheat growers of the country prosper they prosper together, and when they lose they lose together, — and so with the corn growers and the tobacco growers and the cotton growers. Wars, tariffs, crop failures abroad, — these and other things like these will affect the demand for their products. The supply will depend in part upon weather conditions, but more largely upon the amount of these crops that farmers *as a group* have thought it worth while to plan to grow. These conditions of supply and demand are beyond the control of any one individual producer, although he may attempt to foresee them and regulate his own acreage and output accordingly. A succession of profitable years is almost sure to result in an increased output, with lower prices and lower profits. In agriculture, except in particularly lean years, there are rewards for the efficient and energetic producer, but, with minor exceptions, the farmer's chances of getting pure profits are dependent upon the fortunes of the industry as a whole.

In the fields in which each entrepreneur can mark off his product or his establishment as his own, the situation is very different. The manufacturer or jobber who can in some way identify his products by special brands, and the retailer dealing directly with the consumer, are able to secure pure profits (and to run the risk of corresponding losses) on their individual undertakings, over and above such profits and losses as arise from general business fluctuations.

Many of the expenses incurred by entrepreneurs in such fields will be what have been called "competitive investments," that is, they will be devoted to creating a market for particular products rather than to creating those products. The quantities that a particular entrepreneur can profitably produce and, within limits, the prices he can charge, will be determined very largely by his success in inducing purchasers to prefer his goods or his store to others. The profits of cotton growers are directly conditioned, as we have seen, by the aggregate demand for cotton and aggregate supply of cotton. But with the retail dealer and with the manufacturer of breakfast foods or canned fruits or clothes or soap or motor cars or fountain pens or almost any other kind of branded merchandise, profits depend very largely upon the *preference* of consumers for one store or for one make of goods. The getting of profits is not merely a matter of indirect competition among industries; it is a matter of direct competition among individual establishments. One competitor may gain while others in the same field are losing, and he may gain even in the face of a generally unprosperous condition of business.

The Relation of Risks to Profits. — Profits differ from other forms of income in the degree to which they are contingent upon successful risk taking. But risk taking, in this sense, as we have seen, does not mean a blind dependence on chance. Chance is, of course, an element in profits. Capricious changes in fashion often bring temporarily high profits to dealers who happen to have the right kinds of goods in stock, or to manufacturers who happen to have the equipment needed to produce the right kinds of goods. And other examples will suggest themselves to the reader. But there are chance losses as well as chance gains, and there is no reason to believe that they are not quite as numerous and important. Chance gains, therefore, do not constitute any important part of the income going to entrepreneurs as a class, but they may often be a considerable element in the profits of a particular entrepreneur.

Risk taking is nearly synonymous with business enterprise. It involves careful estimates of the amounts of product that can be got from different combinations of labor, capital, and land, and equally careful estimates of the salability of such products. It is

in diagnosing market conditions with a view to ascertaining their probable trend, as well as the possibility of affecting them to his advantage, that an entrepreneur's skill finds its chief opportunity. Yet, though he may deal with probabilities rather than with possibilities, he is nevertheless a risk taker. His estimates have to do with market conditions that are often entirely beyond his personal control, and which, at best, he can influence only by efforts directed to that end, — by expenditures that may prove to have been wasted.

To anticipate consumers' demands correctly is not in itself a guarantee of profits to any entrepreneur. If other entrepreneurs have counted on the same demand, it may easily happen that the total product cannot be sold at a profitable price. In fact, the "market conditions" which the entrepreneur has to forecast include the conditions of supply as well as of demand. But even in case a given entrepreneur has succeeded in producing the precise things that consumers are demanding and other entrepreneurs are not producing, and has thus been able to get large profits, he cannot count on their permanence. Demand may change, but even if demand remains constant or increases, his large profits will be a standing invitation to other entrepreneurs to enter the same field, — a condition which will continue until competition forces the profits of this particular kind of business down to where they just suffice to pay the wages of management. If the product can be marked off, or distinguished in some way, good-will may be built up, so as to give some degree of permanency to profits. But even here the entrepreneur has to guard against the inroads of other business men, seeking to win trade for their own products. In some few cases profits are secured without risk; some (not all) kinds of risks can be eliminated by insurance or shifted to some other risk taker; but, in general, profit seeking and risk taking go hand in hand.

Normal Profits and Average Profits. — Such statistics and concrete information as we have regarding profits bear out the theoretical analysis of profits which has been presented. Profits being a speculative residue, they vary greatly from year to year, not only for particular business concerns and particular industries,

but also for large groups of industries. Thus the net incomes of corporations reported for purposes of federal income taxation amounted to $4,714,000,000 in 1913, a good prewar year, fell to $3,940,000,000 (a decrease of 16 per cent) in 1914, rose to $5,310,000,000 (an increase of 35 per cent) in 1915, and in 1917 reached the enormous aggregate of $10,734,400,000. For the year 1927 the corresponding figure was $8,981,884,261. To cite another illustration, the earnings of national banks averaged 9.5 per cent of their capital and surplus in 1906, rose to 16.4 per cent in 1907 — a crisis year, it may be noted — and fell to 9.10 per cent in 1908. Whole industries, such as farming or steam transport, may for a considerable period of years earn less than minimum profits, and it is not always true that the balance is adjusted by a succeeding period of fat years — an industry may, unknown to most of its followers, be dying out.

Among the entrepreneurs of any particular industry, in any year, the range of profits is likely to be very wide. Statistics covering 1551 bituminous coal-mining concerns for the year 1918 show that for that strikingly prosperous year, 337 concerns operated at a loss, which in the case of 92 companies exceeded 25 per cent of the invested capital. Among the 1214 concerns which showed a net income, the profits varied all the way from 1 to 500 per cent of the invested capital. It is always possible, of course, where the facts are known, to compute the average rate of profits. Thus, among these bituminous coal-mining concerns, the business profits averaged 18.86 per cent upon invested capital before payment of federal taxes, and 9.72 per cent after such payment. But authorities differ on the question whether for particular years or periods of years the data tend to cluster around the average in such a way as to suggest the existence of a *type* or rate of normal profits. One writer thinks that the statistics do point to a type or norm for "rates of capital return," *i.e.* for business profits treated as including interest on borrowed capital.[2] Another authority, however, concludes: "The most that can be said for normality of profits is that the amount of capital that earns the average rate of profits

[2] M. C. Rorty, *Quarterly Publication of the American Statistical Association* (1921), XVII, p. 154.

will remain a fairly constant percentage of all capital. Also, that the amount of capital that earns less than the average rate or more than the average remains about the same one year with another. But the average itself is highly variable and the diversity of earnings for individual establishments is enormous even in so conservative and steady a business as banking. In fields like manufacturing and mining it has varied widely under the influence of war conditions. Even in times of peace there is pronounced variation of earnings from industry to industry within the same year, and in the earnings of the same establishment from year to year. It is quite probable that there were a considerable number of people, even in times of peace, who were earning at a rate fully as high as the so-called profiteers made during the war." [3]

Regulation of Profits, Profiteering, and the Excess-profits Tax. — The foregoing facts indicate how difficult it is to regulate prices or rates so as to yield a fair or normal profit, or to decide fairly whether under given circumstances a business concern has been "profiteering." The difficulty starts, as has been pointed out, with the uncertainty and difference of opinion about what constitutes a normal rate of profits. After the outbreak of the World War the conditions controlling profits were abnormal, so that it is better, in forming our ideas, to go back to conditions as they existed before the war. In regulating rates of public utility companies before the war, courts and commissions in the several states were using as fair or normal, rates of return which varied by more than $33\frac{1}{3}$ per cent, (*e.g.* from less than 6 to 8 per cent), to settle cases which to all appearances were essentially similar. At the time the national banks of the country were earning considerably more than 8 per cent upon their capital and surplus; indeed, for the period of forty-five years ending June 30, 1919, the earnings of the national banks averaged 8.64 per cent upon their capital and surplus. The corresponding figure for the year 1926 was 7.8 per cent. Yet banking would appear to be both a safer and more stable business than that conducted by the average public utility corporation. Rates in manufacturing and mercantile business are higher still,

[3] David Friday, *Profits, Prices, and Wages* (Harcourt, Brace and Co., New York, 1920), pp. 45, 46.

and an investigation of 7000 miscellaneous corporations for the three years 1911–1913 shows average profits of 11 per cent upon their invested capital. A more recent analysis [4] of the tax returns of more than 4000 of the larger corporations reporting to the Bureau of Internal Revenue, shows an average profit for the period 1918–1923 in manufacturing industries of 11.8 per cent, and in trade of 14.6 per cent, upon the capital investment. Much more significant than these general averages is the fact that in every year in every industry there were corporations which produced at a loss and those which produced at a high profit. Diversity of fortune and a wide range from heavy losses to handsome profits is the "normal" condition. In typical or normal years such as 1923 and 1925 nearly one eighth of the gross business of manufacturing corporations, and nearly one sixth of the gross business done by corporations in trade, is done at a loss, or more exactly, by corporations which report "no net income" to the Bureau of Internal Revenue. What is probably the usual or typical condition in a fairly good year is shown by figures for "total manufacturing and trade" in the year 1923. The general average rate of profit on the capital investment in that year was 11.9 per cent; but the lowest quarter of the corporations (measured by capital) earned less than 5.6 per cent, and the highest quarter earned more than 16.9 per cent.

But when we have decided upon a fair or normal rate of profits, its application raises equally difficult questions. The fair rate is used ordinarily in regulating prices over short periods of years, or as the basis of judgment of whether profits of a particular concern in one year or a short period of years have been excessive. But for either use or purpose the mere fact that actual profits or earnings have been above the normal means almost nothing. The "supernormal" profits may represent fruits of exceptional efficiency, exceptional courage, or exceptional foresight. The last factor is of peculiar importance; and frequently the only way we can determine whether exceptional foresight has been shown is by the very profits which it is sought to reduce. And in all judgments, regard

[4] *National Industrial Conference Board*, "The Shifting and Effects of the Federal Corporation Income Tax" (New York, 1928), pp. 193, 233, 236.

must be paid to the losses which the entrepreneur has sustained in prior years, to the losses which he is likely to sustain in subsequent years, and to the losses of other concerns in the same line of business — because it is the opportunity of securing abnormally high profits which induces business men to run the risk of sustaining the losses which examination may show occur with frequency in the industry under consideration.

The foregoing facts, elementary though they be, throw considerable light on many practical questions of importance, although of course they do not completely settle or dispose of them. As regards *profiteering*, they suggest that a sound judgment must be qualitative rather than quantitative. We should look to the manner in which the profits were earned rather than their amount or relation to the investment. If the entrepreneur has participated in some combination in restraint of trade, or has indulged in unfair trade practices, or has imposed upon the weakness or good faith of his customers, he may properly be condemned. But he may make exceedingly high profits in any one year or series of years without being fairly subject to criticism. During the war, for instance, the bituminous coal industry made very high profits. As has been pointed out, some companies earned over 500 per cent on their invested capital. But the industry had been notoriously unattractive before the war. Losses were unusually common, and even during the war the statistics indicate that nearly half of the profits were taken in federal taxes. Since the war the losses in this field have been enormous.

As regards *rate regulation*, it would appear that our ordinary methods attempt to limit profits too rigidly. We approach regulation too often with the assumption that 6 or 8 per cent profit is all that can be legitimately earned or properly allowed in the public utility field. The analysis and the statistics of profit discussed above all suggest that in private industry it is essential that the prospect of a handsome reward be held out to producers or operators of unusual efficiency and foresight. In theory no such prizes are held out to the public utilities today. In fact these rewards have in the past been available, although from sources not contemplated by our theory of rate regulation. Up to the present time the public

utility industry has not suffered, in this country, from the lack of a properly elastic incentive. But that is largely because our theory of rate regulation has not in this respect been effectively applied. If we actually limited profits in the public utility field to 6 or 8 per cent, regardless of the efficiency of the individual operator or producer, we should soon suffer from our mistaken theory of regulation.

Ingenious plans for dividing profits between the consumer (in reduced rates) and the investor (in increased dividends) have been tried. They have not proved successful in the United States. The federal Transportation Act of 1920, by fixing a general rate for groups of railways and permitting any one road or system to retain half of any profits earned by it in excess of the prescribed standard rate (now $5\frac{3}{4}$ per cent) offers more elasticity than the procedure usually employed in regulating the rates of municipal utility companies. But this " recapture provision " of the Transportation Act does not represent an ungrudging acceptance of the principle of elastic reward and will not subject that principle to a decisive test. It is opposed by many railways and at present its promise of successful application is not bright.

Finally, the theoretical considerations here under review throw light upon important aspects of the *excess-profits tax*, the reintroduction of which promises to be a live question for a number of years. The theory of the excess-profits tax is to apply comparatively heavy tax rates to " supernormal " profits, *i.e.* profits in excess of normal profits. But in this country the practice was to apply the rates to profits in excess of a given percentage — 8 per cent during the years following the war — of the invested capital. This procedure violated the theory of the tax, and might, in practice, cause great hardship. Any measurement of supernormal profits in the case of particular entrepreneurs should be based upon average profits realized over a considerable period of years. Losses of the development period must be recouped by correspondingly high profits realized later. The gains of the fat years must be merged with the losses of the lean years. If, therefore, the tax were to be reintroduced for permanent use, provision should be made, as it was made in the British excess-profits tax, to set off the losses, or sub-

normal profits, for particular years against the high profits of other years, and this offset should apply not only to periods of three years — as in the net-loss provision of the present federal income tax — but to very much longer periods.

The point or criticism here suggested is much more than merely theoretical, although it is best appreciated when considered in connection with the theory of profits. Unless losses and subnormal profits be consistently averaged with exceptionally high gains, the excess-profits tax becomes predominantly a tax on the irregular and hazardous industries. The safer industries largely avoid the tax altogether. It does not touch the rich investor who, simply because he has so much accumulated wealth, may content himself with a regular but low return upon gilt-edge investments. The tax falls principally upon those who are becoming wealthy and upon those who finance the more hazardous industries and do the work of industrial pioneering. All this is not sufficient in itself to condemn the excess profits tax. That question, as a practical tax problem, is discussed in Chapter XXXVII. But it is sufficient to debar discussion of an excess-profits tax similar to that imposed by the Revenue Act of 1918, on the assumption that it touches or trenches only on profits above the "normal." The only normal profits are long-period, average profits.

Profits and the Justification of the Competitive System. — One of the strongest arguments for the superiority of the competitive system over any possible substitute for it lies in the claim that, under competition, the guiding of production into the channels indicated by the search for money profits will result in the maximum satisfaction of human wants. This seems to follow from the fact that the prices people are willing to pay for different commodities measure the importance which they attach to the possession of those particular commodities. The shifting of labor and capital from less profitable to more profitable uses means, in general, that more intense wants will be satisfied with the same expenditure of productive energy. This argument, that under free competition the pursuit of money profits leads to the best adaptation of productive efforts to the satisfaction of the wants of consumers, is one that has rarely been squarely met by those who attack the competitive

system. There are, however, several important considerations that lessen to some extent its force.

In the first place, the extent to which the wants of any individual affect the ordering of the productive process depends upon his purchasing power, that is, primarily, upon his income. It is manifestly absurd to say that the shifting of labor and capital from the production of necessities for the poor to the production of luxuries for the rich, simply because it may be more profitable, necessarily means a better satisfaction of human wants. The extent to which wants are satisfied depends on the way wealth is distributed, as well as upon the amount and kinds of things produced.

Moreover, even granting that the stimulus of money profits leads to the best practicable satisfaction of the wants of present consumers, this may sometimes be achieved by putting added difficulties in the way of the want-satisfactions of future generations. The lines of procedure that will bring maximum profits to entrepreneurs sometimes run counter to the more permanent interests of society. We all recognize, for example, that there may be such a thing as a too rapid exploitation of natural resources.

A still more important qualification of the statement that competitive profit-seeking works for the best interests of society, viewed as a body of consumers, is found in the fact that when we begin to speak of the interests of society, we introduce, of necessity, the ethical point of view. This means that we must consider not only the *quantity*, but also the *quality*, of want-satisfactions. For purposes of the economic analysis of market forces, we make no distinction between different kinds of wants, but it is impossible to discuss social well-being without taking into account the fact that from the point of view of the interests of society some kinds of want-satisfactions are good and some are bad, and that even the better kinds of want-satisfactions vary greatly in their importance, when measured by any rational criterion of social welfare.

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CHAPTER XXV

THE PERSONAL DISTRIBUTION OF WEALTH

In the present chapter we shall study the distribution of wealth and income among individuals simply as individuals, and not as agents of production or owners of productive agents. To begin with, certain distinctions must be clearly drawn.

1. The distribution of wealth and income should first be distinguished from the distribution of final consumption. A man of vast possessions may be frugal in his consumption, acting with respect to most of his property virtually as a trustee for society. But when we are interested in the cleavage between social classes, in the progress of industrial democracy, or in the personal power and independence of individuals, the distribution of wealth or income is important, no matter how frugal the owners of large wealth may be. Wealth yields power as well as consumers' satisfactions.

2. Two entirely independent inquiries are frequently confused. First: We may wish to know whether the condition of the mass of the people is getting better or worse. Do they have more or less of the good things of life than their ancestors had? Secondly, we may ask: What relative share of the total product of industry is received by a given group in the community? Which group is gaining upon the others? If A and B divide a catch of ten fish equally today, and if tomorrow A gets ten out of a total catch of thirty, then absolutely his income has increased, but relatively it has declined.

Statistics of Distributive Shares. — We cannot measure shares without using figures. Accordingly, much attention must be given in this chapter to statistics of income and wealth. The reader is warned in advance that statistics of income and wealth are more defective than most quantitative data, being based in unusual

degree on estimates. Moreover, in interpreting these data, the economist is beset by exceptionally difficult questions of definition and meaning. The following general observations may assist the reader to use these statistics helpfully:

1. The statistics portray certain conditions or tendencies with such emphasis and with such wide margins, that they may be accepted as proved despite the defects of the statistical material. This is particularly the case where they show the concentration of income and wealth in the upper or richer classes. Few people see these statistics for the first time without experiencing a shock. Yet, in all capitalistic countries, the figures show a similar concentration, so that it must be accepted as substantially correct. The pecuniary system under which we live breeds inequality of money, wealth, and income.

2. No direct relation between these monetary statistics and welfare can be traced. Statistics cannot estimate the money worth of leisure to the different classes of society or of the services performed by housewives or by individuals for themselves. A rich man may employ a chauffeur, but most men drive for themselves. Should we increase the incomes of the latter by making allowances for this self-service? And what should be done with income which is saved? It would be helpful if we had statistics of consumed income for the different classes of society. In general, the joy of living is probably not concentrated in the richer classes to the same extent that money and wealth appear to be. But the reader must reach his own conclusions on this question. The statistics of income and wealth mean different things to different people. The statistician and economist can say nothing with certainty about the distribution of psychic income. The facts about income measured in money are, however, highly significant, provided they are not interpreted directly in terms of social welfare.

3. Statistics of total national income or wealth are, in our opinion, almost worthless as absolute magnitudes. But they can, with care, be used to yield coefficients of change or variation. If both the numerator and denominator of a fraction are affected by errors of the same degree the resulting ratio or percentage will nevertheless be correct. This statistical truth makes it possible

to draw conclusions which are probably correct from statistics which are subject to a wide margin of error.

An instructive illustration of this is found in Professor M. A. Copeland's able study of the "National Income and Its Distribution."[1] Professor Copeland centers his study largely on "realized income." This includes the estimated rental value of houses occupied by their owners, imputed interest on investment in other durable consumption goods, and the value of certain commodities, such as poultry, for example, produced by families for their own consumption. It does not, however, include the value of housewives' services, profits from the sale of capital assets, additions to corporate surplus, or changes in the value of real estate.

Profits from the sale of capital assets, additions to corporate surplus, and changes in the value of real estate should, logically, be included, but Professor Copeland explains that he excluded them "because their inclusion may give rise to year-to-year changes in national income which do not correspond to any changes in the production of goods and services, or the capacity of our resources to produce them."[2] Mr. H. W. Laidler, a fair-minded and able socialist, criticizes this definition of realized income on the ground that corporate surplus is a definite and important addition to the income of property owners, and that the share of the total income received by the wage-earning and salaried group, as distinct from the property-income group, cannot be ascertained when these additions to surplus are not included. This view is shared by Prosessor John R. Commons who, however, holds that even as a matter of logical definition, profits from the sale of capital assets and changes in the value of real estate can properly be excluded. In our opinion, additions to corporate surplus as measured by corporate accounting furnish a more trustworthy figure than any possible estimate of the value of commodities produced by families for their own consumption or of imputed interest on investment in durable consumption goods.

Questions of this kind could be profitably analyzed and discussed

[1] President's Conference on Unemployment. Report of the Committee on *Recent Economic Changes* (The McGraw-Hill Book Co., New York, 1929), Vol. II, pp. 757–839.
[2] *Ibid.*, pp. 757–758.

at great length. The point to be noted here, however, is this: Professor Copeland's statistical conclusions, which are quoted in Table XXIV, indicate an increase, during the years 1913–1925, in the share of the total realized income going to the wage-earning and salaried classes. A slight decline is shown in the shares going to property holders, and also to "profits withdrawn by individual enterprisers" from their business. Although we differ from Professor Copeland in his definition of realized income, it is probable that, owing to the statistical theorem stated above, the change suggested by his figures is approximately correct. Wages and salaries rose to a marked degree, during the years 1913–1925; moreover, although profits increased enormously, and probably even more rapidly than wages and salaries, in some lines of manufacture and in banking, yet some important industries, such as textile manufacturing, coal mining, and farming, were less prosperous in 1925 than in 1913. It must be remembered also that farmers represent our largest entrepreneurial class and that farm property constitutes perhaps the largest single class of productive goods.

TABLE XXIV

DISTRIBUTION OF TOTAL REALIZED INCOME OF THE UNITED STATES IN 1925 AND 1913 AMONG VARIOUS LABOR AND PROPERTY GROUPS[3]

ITEM	TOTAL REALIZED INCOME		MONEY INCOME	TOTAL REALIZED INCOME		MONEY INCOME
	1925	1913	1925	1925	1913	1925
	Billions of Dollars			Per Cent		
Wages	30.8	13.0	30.8	38	37	42
Salaries	15.0	5.5	14.9	18	15	20
Pensions, benefits, and compensations	1.1	.3	1.1	1	1	1
Total share of employees	46.8	18.8	46.8	57	53	63
Rents and royalties	10.6	5.2	5.8	13	15	8
Interest	3.9	1.5	3.9	5	4	5
Dividends	4.1	2.2	4.1	5	6	6
Property income	18.6	8.9	13.8	23	25	19
Entrepreneurial profits withdrawn	16.4	8.0	13.7	20	22	18
Total realized income	81.8	35.7	74.3	100	100	100

[3] Adapted from Copeland, *loc. cit.*, Tables 3 and 4, pp. 767, 769.

A rough idea of the effect of using realized income instead of accrued income in analyzing distribution may be gained from the following estimates. Accrued social income includes additions to surplus and certain real estate appreciation, and excludes interest on the Federal debt.

	1924 Per Cent	1925 Per Cent	1926 Per Cent
Proportion of accrued social income going to			
Employees	50	56	56
Enterprisers and property	50	44	44

Statistics of Personal Distribution. — The preceding statistics deal with functional distribution. They tell us little directly or accurately about social classes. Salaries are often received by very wealthy men; while interest is sometimes received by very poor people. For many purposes a more serviceable classification is that based upon the size or amount of the income. The trend of distribution under pre-war conditions in a country which was making unusually rapid industrial progress during the period covered is shown in Table XXV.

The figures for 1892 and 1902 are from a table prepared by Professor Wagner, in a study of the income-tax returns of Prussia, and the corresponding figures for 1913 have been added.

TABLE XXV

Incomes in Prussia: 1892, 1902, and 1913[1]

Incomes in Dollars	Per Cent of Persons (Heads of Families or Self-Supporting Individuals)			Per Cent of Income (That below $214 is estimated)		
	1892	1902	1913	1892	1902	1913
Below 214 . .	78.18	70.66	52.49	41.21	32.97	18.28
214–714 . .	18.98	25.83	42.12	30.01	34.92	46.25
714–2261 .	2.33	2.88	4.53	12.83	13.73	15.84
2261–7259 .	0.41	0.51	0.68	7.37	7.84	8.12
7259–23800	0.08	0.10	0.14	4.65	5.13	5.62
Over 23800	0.01	0.02	0.04	3.93	5.40	5.89
Absolute amounts . (Totals) .	Number 11,162,000	Number 12,813,000	Number 15,404,855	Dollars 2,309,076,000	Dollars 3,039,498,000	Dollars 4,736,000,000

[1] From *Zeitschrift des Preussischen Statistischen Bureaus* (1904), p. 231, and *Statistisches Jahrbuch für den Preussischen Staat* (1913).

The great mass of the people even in 1913 were too poor to pay any income tax at all, the minimum income taxed being $214. About 5 per cent of the population at the top received about one third the total income in 1913. It should be noted, however, that even if incomes had been equally distributed, the average income would have been very small. In 1902 the average income was $237 and in 1913 it had risen to $307. The increase of the money incomes of the poorest class of the people is shown in the much smaller proportion with incomes below $214 in 1913 than in 1902. This increase in money income does not necessarily mean greater well-being or greater equality, but the table as a whole shows no marked tendency toward a concentration of incomes in the hands of the wealthier classes. Conditions in the United Kingdom after the war are portrayed in Table XXVI.

A pronounced inequality is shown in the distribution of income among income tax payers in the United Kingdom in 1924. The lowest two thirds of these tax payers reported only one third of the total income reported. At the other end of the scale, less than one fifth of one per cent of the highest incomes accounted for ten per cent of the total income reported. It will also be noted that more than ninety-nine per cent of those paying income tax reported incomes of £6000 (approximately $30,000), or less. Ninety-five per cent had incomes of less than £1500 ($7500), and two thirds reported incomes below £500 ($1500). If the individuals or families exempt from income taxation had been included, the concentration of wealth in the upper groups would be shown to be even greater.

These data provide no basis for judgment as to whether the concentration of income in Great Britain is or is not increasing. Professor A. L. Bowley made a study of this question for a pre-war period and reached the conclusion that there was no dependable indication of a tendency toward greater concentration.[6] Average incomes were somewhat greater in 1913 than in 1880, but "the increase was shared with remarkable equality among the various economic classes." In particular, the proportion of the national

[6] *The Change in the Distribution of the National Income* (Oxford University Press, New York, 1920), p. 22..

TABLE XXVI

ESTIMATED DISTRIBUTION OF INCOME IN GREAT BRITAIN AND NORTHERN IRELAND ABOVE INCOME-TAX EXEMPTION LIMIT IN 1924 [5]

INCOME CLASSES		SIMPLE DISTRIBUTION		CUMULATIVE DISTRIBUTION % ABOVE LOWER LIMIT OF CLASS	
Exceeding	Not Exceeding	Number of Persons	Amount of Income £ Millions	Number of Persons	Amount of Income
£ 147	£ 300	3,488,000	701.0	100.	100.
300	500	938,900	355.0	33.	68.
500	1,000	510,400	345.8	15.1	51.
1,000	1,500	123,000	148.5	5.1	35.
1,500	2,000	50,285	86.0	2.7	28.
2,000	4,000	53,478	148.1	1.7	24.
4,000	6,000	15,893	77.0	.7	17.
6,000	8,000	7,955	48.6	.4	14.
8,000	10,000	3,789	33.9	.25	11.
10,000	20,000	6,263	85.1	.18	10.
20,000	40,000	2,077	55.6	.056	5.8
40,000	75,000	608	31.8	.017	3.2
75,000	100,000	114	9.8	.0048	1.8
100,000 and over	and over	138	28.0	.0027	1.3
	Total	5,200,000	2154.2		

[5] This table was derived from data compiled by L. R. Connor, "On Certain Aspects of the Distribution of Income in the United Kingdom in 1913 and 1924," *Journal of the Royal Statistical Society*.

income dividend obtained by property, as distinguished from what was paid for labor and other personal services, was found to be unchanged. Whether this same conclusion would hold for the period since 1913, cannot be determined on the basis of the statistical data now available.

The United States federal income tax, put into effect in 1913, has already given us very much more dependable statistics of the distribution of incomes than we formerly possessed. Even in what might be called their crude form, *i.e.* as reported by the Treasury Department, the facts respecting personal income-tax returns are useful and illuminating, — as may be inferred from Table XXVII, in which the returns for 1926 are summarized. One significant

TABLE XXVII

INDIVIDUAL RETURNS — SIMPLE DISTRIBUTION OF THE NUMBER OF RETURNS AND NET INCOME, AND RELATIVE PERCENTAGES, BY INCOME CLASSES
(Income-tax returns for the calendar year 1927 filed to August 31, 1928) [7]

INCOME CLASSES	NUMBER OF RETURNS		NET INCOME[a]	
	SIMPLE DISTRIBUTION		SIMPLE DISTRIBUTION	
	Number in Each Class	Per Cent of Total	Amount in Each Class	Per Cent of Total
Under $5,000 . . .	3,234,877	78.47	$8,708,353,581 [b]	38.58
$5,000 to $10,000 . .	543,509	13.18	3,759,147,199	16.63
$10,000 to $25,000 . .	250,455	6.08	3,726,099,906	16.51
$25,000 to $50,000 . .	59,874	1.45	2,043,439,086	9.06
$50,000 to $100,000 .	22,460	.55	1,527,683,368	6.77
$100,000 to $150,000 .	5,240	.13	633,510,993	2.81
$150,000 to $300,000 .	3,854	.09	783,185,783	3.47
$300,000 to $500,000 .	1,135	.03	428,720,830	1.90
$500,000 to $1,000,000	555	.013	376,920,182	1.67
$1,000,000 and over .	283	.007	586,256,979	2.60
Total	4,122,242	100.00	22,573,317,907	100.00

[a] Capital net gain from sale of assets held more than 2 years is included in net income, but capital net loss from sale of assets held more than 2 years and net loss for prior year are not deducted.
[b] The income for returns filed by individuals having net income of less than $5000 is estimated, being based on the data shown in the returns filed in this income class for the preceding year.

[7] Fiscal year returns included.

fact which these returns have brought out is that in periods of rapid economic change there is a surprising amount of year-to-year variation in the importance of the different income groups. For example, the number of persons reporting incomes of over a million dollars was 206 in 1916, 65 in 1919, 21 in 1921, 75 in 1924 and 283 in 1927. Care should be taken, therefore, to allow for these short-time variations before coming to any definite conclusions respecting long-time tendencies.

Table XXVIII summarizes the results of elaborate estimates made by members of the staff of the National Bureau of Economic Research. These estimates are based upon income-tax data, but account had to be taken of nonreported and understated income, of certain forms of non-monetary income — such as the rental values of owned homes, of income from tax-exempt securities, of "negative" incomes resulting from net losses for the year, and of incomes too small to be subject to the income tax. The results are, at best, only approximate, but the general picture they give is probably correct in its main outlines.

The Meaning of Inequality in the Distribution of Incomes. — Facts like those which appear in Table XXVIII are interpreted in different ways by different critics. To some they indicate a tolerably satisfactory condition of affairs, to others they indicate that the present distribution of incomes is grossly unequal and unjust. Some, although probably not all, of these differences could be avoided if pains were taken to agree in advance upon some fairly definite measure or criterion of inequality in income distribution.

In the first place, in comparing the distribution of incomes at two periods or in two different countries, no large importance should be given to the way in which the income receivers are distributed among *fixed* income groups, like those in the first column of Table XXVIII. Otherwise a general fairly uniform increase of incomes would be made to appear to be attended with an increasing concentration of incomes. And as between any two countries, incomes would appear to be distributed more unequally in the richer one. If, for example, all incomes in the United States in 1918 had been only half as large as in fact they were, a smaller number of income receivers would have been in the higher and a larger number

TABLE XXVIII

DISTRIBUTION OF INCOMES IN THE UNITED STATES: 1918 [8]

INCOME CLASS	INCOME RECEIVERS		AGGREGATE INCOME		CUMULATIVE PER CENTS	
	Number	Per Cent of Total	Amount (Millions)	Per Cent of Total	Income Receivers	Amount of Income
Under Zero	200,000	.53	$ 125	.22	100.00	100.00
$0 to $500	1,827,554	4.86	685	1.18	99.47	100.22
$500 to $1,000	12,530,670	33.35	9,819	16.94	94.60	99.04
$1,000 to $1,500	12,498,120	33.27	15,296	26.40	61.25	82.10
$1,500 to $2,000	5,222,067	13.90	8,918	15.39	27.98	55.70
$2,000 to $3,000	3,065,024	8.16	7,314	12.62	14.08	40.31
$3,000 to $5,000	1,383,167	3.68	5,174	8.93	5.92	27.69
$5,000 to $10,000	587,824	1.56	3,937	6.79	2.24	18.76
$10,000 to $25,000	192,062	.51	2,808	4.85	.68	11.97
$25,000 to $50,000	41,119	.11	1,399	2.41	.17	7.12
$50,000 to $100,000	14,011	.04	952	1.64	.06	4.71
$100,000 to $200,000	4,945	.01	672	1.16	.02	3.07
$200,000 to $500,000	1,976	.005	570	.98	.01	1.91
$500,000 to $1,000,000	369	.001	220	.38	.001	.93
$1,000,000 and over	152	.0004	316	.55	.0004	.55
Totals	37,569,060	100.0000	$57,955	100.00	——	——

in the lower income classes. A smaller proportion of the national income would have appeared to go to the "very wealthy," — if we had kept our fixed classification and had measured wealth on an absolute rather than a relative scale. It is clear that for most purposes the relative, not the absolute, positions of income receivers are more significant.

A relative measure is afforded by the cumulative percentages in the last two columns of Table XXVIII. A uniform increase or decrease of incomes would not affect the relations between these percentages. But care must be taken in interpreting them. They indicate, for example, that about 12 per cent of the national income in 1918 was concentrated in the hands of those who received less than seven tenths of 1 per cent of the incomes, that nearly 28 per cent of the total income went to less than 6 per cent of the income receivers, and that 28 per cent of the income receivers obtained considerably over half of the total income. But these figures seem less startling when we note that we have to go as low as

[8] National Bureau of Economic Research, *Income in the United States, 1909–1919*, Vol. I, p. 136.

$10,000 to find seven tenths of one per cent of the income receivers, and down to $1500 to find 28 per cent. Or we may note that nearly three fifths of the total income was received by persons whose individual incomes were between $1000 and $3000. We are using the absolute scale again, as a supplement or corrective to the percentage scale, but merely because it helps us to determine whether certain points on the percentage scale are low, or moderate, or high. In comparing the distribution of incomes at different periods or in different countries we should have to translate our scales of reference into relative terms, *e.g.* by expressing the limits of our income classes as percentage deviations from the average income, instead of in dollars.

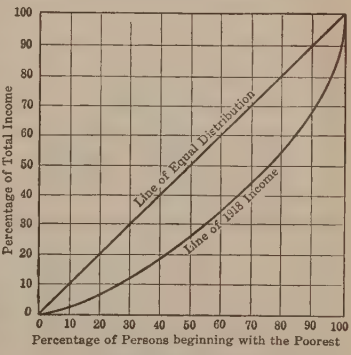

FIG. 1. — CUMULATIVE DISTRIBUTION OF TOTAL INCOME: 1918[9]

The "line of 1918 income" shown in Figure 1 portrays just such cumulative percentages as appear in Table XXVIII, except that the percentages are accumulated in the other direction, *i.e.* they begin with the smallest instead of the largest incomes. It is clear that if all incomes were equal, so that 20 per cent of the income receivers got 20 per cent of the total income and 50 per cent of the income receivers got 50 per cent of the total income, the distribution of incomes would be represented by the straight diagonal line in the diagram. The distance between the curved line and the straight line may be taken, therefore, as measuring the degree of inequality with which incomes are distributed. Moreover, the distribution of incomes at different periods or in different countries may be compared by the use of this device.

Cumulative percentages and the graphic device we have just

[9] From *Income in the United States* (National Bureau of Economic Research, New York, 1925), Vol. I, p. 141.

considered are helpful aids in determining the meaning of statistics of the distribution of income. Their principal defect is that the standard of comparison they imply is an absolutely flat and equal distribution. But a dead level of uniformity in the distribution of incomes is an impracticable and, in the opinion of most persons, an undesirable goal. Another standard of comparison is afforded by such curves as appear in Figure 2, which represent a hypothetical "normal" distribution. This sort of distribution is called "normal" because, in the first place, it corresponds to the way in which groups of events determined by chance, *i.e.* by the operation of a large number of independent and unbiased forces, are commonly found to be arranged, and because, in the second place, the measurements of a large variety of variable objects are found also to be distributed in such fashion. Among the things which are distributed with a fair approximation to normality are many of the physical and mental attributes of men.

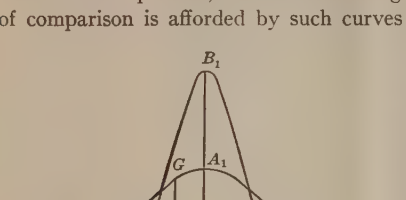

FIG. 2. — NORMAL FREQUENCY DISTRIBUTION

Suppose different sizes of incomes to be represented by successive points on the straight horizontal line AA_2, with the minimum income at A and the maximum at A_2. Then let vertical distances measured upward from this line represent the *number* of incomes that are of the designated amounts. Thus the number of incomes of size P would be PG, while there would be QH incomes of size Q. The curve AA_1A_2, which connects the tops of these imaginary vertical lines would then represent the "frequency distribution" of incomes. Two important characteristics of this curve will be noted: first, the most common or "frequent" income is the median or average income; second, the curve is symmetrical, that is, as many incomes exceed the average by $1000 as fall short of it by that amount. The curve BB_1B_2 is precisely the same sort of curve,

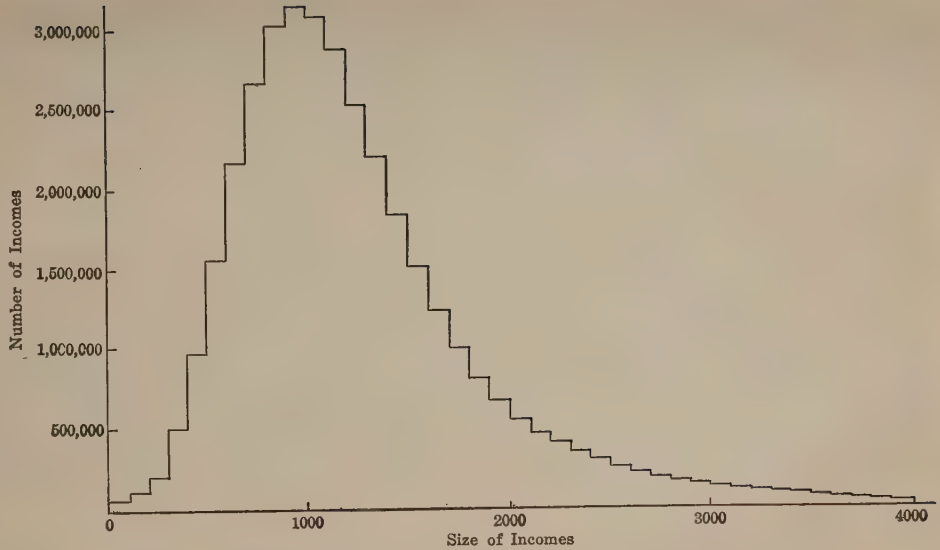

FIG. 3. — FREQUENCY DISTRIBUTION OF INCOMES IN THE UNITED STATES: 1918[10]

[10] From *Income in the United States*, Vol. I, p. 128.

and represents just as many incomes, but it is constructed on the assumption that income is only half as variable as is indicated by the curve AA_1A_2, that is, that incomes are more evenly distributed in the sense that, on the whole, they do not deviate so much from the average. Either curve might represent (1) a normal distribution of ability and efficiency and a perfect proportioning of income to ability and efficiency, or (2) a random or chance distribution of incomes, under the influence of complex but unbiased forces.

The actual frequency distribution of incomes in the United States in 1918, according to the estimates of the National Bureau of Economic Research, is depicted in Figure 3. Incomes over $4000 are not shown. To cover the whole range of incomes, so as to show the further approach of the curve toward the horizontal base line, the diagram would have to be several hundred times as wide as it is. Compared with the normal curve, this diagram, it will be noted, is asymmetrical, being skewed to the right. If it were symmetrical the peak would be, not at a point between $900 and $1000, but at $1543, the arithmetic average of all incomes. Viewed in this way inequality in the distribution of incomes has *two* different meanings: (1) the *dispersion* of incomes over a larger or smaller range, as measured by the extent to which they deviate from the average; (2) the *asymmetry* of income distribution, measured by the skewness of the curve of incomes. The difference between these two criteria may be inferred from the fact that even if incomes were, in fact, distributed "normally," if the average income were $1500, and if, further, half of all incomes were within $500 of the average, 70 per cent of the aggregate income would go to the richer half of the population and 30 per cent to the poorer half.

A study recently completed by Dr. W. I. King for the National Bureau of Economic Research throws much light on the concentration of income in the United States in recent years. The principal results are summarized in Tables XXVIII A and B following, covering the years 1916–1926 inclusive. The share of the entire realized income received by the richest 1 per cent, as shown in the latter part of Table XXVIII A, varied from a little more than 14 per cent in 1916 to a little less than 10 per cent in 1923. The years 1916 and 1926 were years of striking "prosperity," while 1920 and

1921 were years of comparative depression, for business. The tables show that in the prosperous years the share of the upper 1 per

TABLE XXVIII A

AMOUNTS AND PERCENTAGES OF THE TOTAL REALIZED INCOME OF THE PEOPLE OF THE UNITED STATES REPORTED AS RECEIVED BY CLASSES REPRESENTING FIXED PROPORTIONS OF ALL INCOME RECIPIENTS [11]

	Calendar Year	Entire Realized Income of the People of the United States	Class IV: The 99% of Income Recipients Having the Lowest Incomes	Class III: The Richest 1% of Income Recipients Excluding Classes I and II	Class II: The Richest $\frac{1}{10}$ of 1% of Income Recipients Excluding Class I	Class I: The Richest $\frac{1}{100}$ of 1% of Income Recipients
Income of Class in Millions of Dollars	1916	$43,288	$37,168	$2,885	$1,862	$1,373
	1917	51,331	44,531	3,500	2,006	1,294
	1918	60,408	54,268	3,570	1,491	1,079
	1919	65,949	58,729	4,340	1,820	1,060
	1920	73,999	67,159	4,530	1,547	763
	1921	63,371	58,191	3,130	1,430	620
	1922	65,925	59,125	4,175	1,715	910
	1923	74,337	67,077	4,540	1,806	914
	1924	77,135	68,935	5,000	2,065	1,135
	1925	81,931	71,621	5,985	2,670	1,655
	1926	85,548 [a]	75,148 [a]	5,975	2,675	1,750
Per Cent of Total Realized Income of Nation	1916	100.00	85.86	6.66	4.30	3.17
	1917	100.00	86.75	6.82	3.91	2.52
	1918	100.00	89.84	5.91	2.47	1.79
	1919	100.00	89.05	6.58	2.76	1.61
	1920	100.00	90.76	6.12	2.09	1.03
	1921	100.00	91.83	4.94	2.26	.98
	1922	100.00	89.69	6.33	2.60	1.38
	1923	100.00	90.23	6.11	2.43	1.23
	1924	100.00	89.37	6.48	2.68	1.47
	1925	100.00	87.42	7.30	3.26	2.02
	1926	100.00	87.84 [a]	6.98 [a]	3.13 [a]	2.05 [a]

[a] Preliminary estimate.

[11] *News Bulletin*, National Bureau of Economic Research, Inc., No. 34, New York, Nov. 8, 1929, pp. 2, 3.

TABLE XXVIII B

Per Capita Income in Each of Four Classes of Income Recipients [12]

Calendar Year	Current Dollars				1913 Dollars			
	Class IV	Class III	Class II	Class I	Class IV [a]	Class III [b]	Class II [c]	Class I [c]
1916	$ 971	$ 8,295	$53,535	$355,239	$ 887	$7,796	$50,315	$333,871
1917	1,142	9,872	56,579	328,510	888	8,216	47,908	278,163
1918	1,356	9,814	40,987	266,947	880	7,091	30,451	198,326
1919	1,471	11,954	50,128	262,766	818	7,551	32,936	172,645
1920	1,692	12,556	42,881	190,322	832	6,954	24,658	109,443
1921	1,437	8,501	38,840	151,552	835	5,078	23,299	90,913
1922	1,441	11,197	45,993	219,648	906	7,027	28,603	136,597
1923	1,601	11,918	47,409	215,923	990	7,419	29,355	133,698
1924	1,608	12,832	52,995	262,125	991	7,998	32,957	163,013
1925	1,646	15,126	67,479	376,479	992	9,229	41,121	229,420
1926	1,699 [e]	14,861	66,531	391,762	1,019 [e]	9,073	40,617	239,171

[a] Amount in current dollars divided by weighted average of indices for urban employees, farmers, farm laborers, and $5000 class.
[b] Amount in current dollars divided by index for $5000–$25,000 class.
[c] Amount in current dollars divided by index for $25,000 class.

[12] News Bulletin, National Bureau of Economic Research, Inc., No. 34, Nov. 8, 1929, pp. 2, 3. New York, 1929.

TABLE XXVIII B (*Continued*)

RELATIVE PER CAPITA INCOME
(Income in 1916 = 1.00)

CALENDAR YEAR	CURRENT DOLLARS				1913 DOLLARS			
	Class IV	Class III	Class II	Class I	Class IV	Class III	Class II	Class I
1916	1.00 [d]	1.00 [d]	1.00 [d]	1.00 [d]	1.00 [d]	1.00 [d]	1.00 [d]	1.00 [d]
1917	1.18	1.19	1.06	.92	1.00	1.05	.95	.83
1918	1.40	1.18	.77	.75	.99	.91	.61	.59
1919	1.52	1.44	.94	.74	.92	.97	.65	.52
1920	1.74	1.51	.80	.54	.94	.89	.49	.33
1921	1.48	1.02	.73	.43	.94	.65	.46	.27
1922	1.48	1.35	.86	.62	1.02	.90	.57	.41
1923	1.65	1.44	.89	.61	1.12	.95	.58	.40
1924	1.66	1.55	.99	.74	1.12	1.03	.66	.49
1925	1.70	1.82	1.26	1.06	1.12	1.18	.82	.69
1926	1.75 [e]	1.79	1.24	1.10	1.15 [e]	1.16	.81	.72

[d] The year 1916 may not be typical. It is used as a base merely because it happens to be the first year for which data are available.
[e] Preliminary estimate.

cent was greatest, while the lower 99 per cent received its largest *share* in 1921 and its next largest *share* in 1920. On the other hand, as shown in Table XXVIII B, the actual per capita income of the 99 per cent was not relatively high in 1920 and 1921. Indeed, when measured in "constant" dollars of 1913, the purchasing power of the per capita income is shown to have been particularly low for all classes in 1920 and 1921.

While 1916–1926 is too short a period to afford a safe basis for generalization, there is much reason to believe that the results noted immediately above are typical of the long-time movements affecting the concentration of wealth and income. War, inflation, and booming business increase the concentration of wealth and income in the upper or wealthier classes. Depression exerts an equalizing influence and increases the share of the total income received by the less well-to-do. But it does not increase their wealth or income measured absolutely; in material comfort and purchasing power all classes suffer in periods of depression.

In general, the facts respecting the distribution of incomes are such as properly to constitute a cause of grave concern. Despite the relatively high per capita production of wealth, poverty still persists, — as indicated, albeit imperfectly, by the very small incomes at the lower end of the income scale. At the other end of the scale are a relatively small number of incomes that are almost absurdly large. And the whole scheme of distribution is skewed or twisted in such a way as to constitute a problem in itself.

In material comforts, undoubtedly, the people of this generation are, in general, better off than those of any earlier day. The work of settlement in which so many of our forefathers engaged was laborious and exhausting. Food was often scarce, disease was rife in many settlements, and the women and children in particular suffered greatly. After the wilderness was cleared, there ensued a period of "rude plenty." Food was abundant, but it was coarse in quality and restricted in variety, whilst everything that had to be brought from a distance was very expensive. Education was difficult to secure, books scarce, and the lives of most people were, in the main, monotonous and uneventful.

Speaking generally, money wages have steadily risen, and the

hours of labor have declined, with minor interruptions, since the colonial period, while prices have fluctuated irregularly. In the last quarter of the nineteenth century there was a steady and notable increase in the real wages of labor. In the first fifteen years of the twentieth century, however, money wages in the United States, as elsewhere, failed to keep pace with the persistent rise of the price level, so that the wage earner lost some ground. Despite the further rise of prices brought about by the inflation attending the World War, labor managed with remarkable success to hold its relative position, so that the subsequent fall of prices meant another advance in the real wages of labor. Furthermore, it should be remembered that "the wage earner," of whom we have been speaking, is really largely an abstraction. The advance in the real economic position of actual wage earners and of their descendants has undoubtedly been, on the whole, much more rapid. The ranks of the more poorly paid laborers have been continually recruited by immigrants from other countries. The relatively low position they have to take at first in American economic life constitutes a real advance over their former status. Their coming has retarded the advance in the "general level" of wages, but it gives added meaning to the fact that the general movement of the earnings of particular laborers and their descendants has been very definitely upward.

But poverty nevertheless remains. Certain English investigations show that well toward the end of the nineteenth century more than one fourth of the population of the cities of London and York were below the poverty line. To be sure, it is not easy to determine definitely how poor a person must be in order to be "in poverty," but the statement just made is based upon standards that are undeniably conservative. A number of those actually in poverty have enough income to purchase their minimum physical requirements if they knew how to spend their money wisely. But in the city of York 10 per cent of the population in 1899 had insufficient earnings for minimum requirements estimated at $5.25 per week for a family of five. This minimum is very low, even at the lower prices then prevailing, and it is easily within the mark to say that at least a fifth of the population of York did not have a suffi-

cient income for a decent existence. In the United States the proportion of the urban population below the poverty line is probably somewhat less, but reliable statistics cannot be quoted.

An American writer has estimated that ten million persons in the United States are in poverty, not all in distress, but "much of the time underfed, poorly clothed, and improperly housed." The estimate is based on statistics of unemployment, returns of boards of charity, court records of evictions, and pauper burials. Whatever the correct figures may be, they would doubtless be startling in comparison with statistics of our industrial progress.

Statistics of Wealth Distribution. — The process of estimating makes statistics of wealth even more approximative than statistics of income, for this reason: in appraising the value of some of the most important classes of wealth we must estimate the probable future income derivable from the property in question and then capitalize this estimate at an estimated interest rate. Not as much reliance then may be placed upon statistics of wealth as upon statistics of income distribution. The following estimates (Table XXIX) made by a disinterested and ingenious statistician are presented primarily to illustrate the extreme concentration of wealth shown by practically all statistics bearing upon the distribution of wealth in the United States. These figures show less concentration in the upper or richer classes than most other data dealing with this subject.

These data permit of certain broad generalizations which are important. In the first instance, it will be noted that of the estimated population of over 108,000,000 people in Continental United States in 1921, only 41 million are represented in this table as property owners. Almost two thirds of the population were without property. While a larger proportion of this propertyless class was made up of housewives and minors, there were, nevertheless, many who were wholly dependent upon their current earnings for a livelihood. If these figures are substantially correct and if conditions are substantially the same as in 1921, more than one quarter of the wealth of the United States is owned by less than one per cent, more than one half by a little more than five per cent, and over three quarters by slightly more than one fifth,

TABLE XXIX

THE ESTIMATED DISTRIBUTION OF WEALTH AMONG PROPERTY OWNERS IN THE CONTINENTAL UNITED STATES, DECEMBER 31, 1921 [13]

WEALTH PER PERSON	SIMPLE DISTRIBUTION		CUMULATIVE DISTRIBUTION % ABOVE LOWER LIMIT OF CLASS	
	No. of Persons in Class	Wealth of Class (Millions)	No. of Persons	Amount of Wealth
$0 to $1,000	5,288,378	$ 3,583	100.00	100.00
$1,000 to $2,000	12,136,688	18,256	87.07	98.73
$2,000 to $3,000	7,428,328	18,154	57.40	92.23
$3,000 to $5,000	7,167,866	27,247	39.25	85.78
$5,000 to $10,000	4,497,750	30,890	21.72	76.08
$10,000 to $20,000	2,140,110	29,805	10.73	65.10
$20,000 to $30,000	922,000	22,710	5.50	54.50
$30,000 to $40,000	510,900	17,512	3.24	46.42
$40,000 to $50,000	186,000	8,268	2.00	40.19
$50,000 to $100,000	371,100	25,619	1.54	37.25
$100,000 to $1,000,000	251,970	61,283	0.63	28.14
$1,000,000 to $5,000,000	6,585	10,297	0.018	6.34
$5,000,000 and over	649	7,535	0.0016	2.68
Total	40,908,324	281,159		

of the property owners. To state the same relationships in a different way: about four fifths of the property owners of this country own individually less than $10,000 of wealth and in the aggregate account for less than one quarter of the national wealth. Ninety-eight per cent of the property owners are worth $50,000 or less and own in the aggregate about sixty per cent of the national wealth.

The growth of the number of millionaires has been used as an evidence of growing wealth concentration, but it should be noted that a growth of population and wealth in a community would cause an increase in the number of millionaires, even if the relative position of the various classes remained the same. Suppose that in 1850 there had been in the United States but fifty millionaires, that three hundred and fifty persons had from $750,000 to

[13] Dr. W. I. King, "Wealth Distribution in the Continental United States at the Close of 1921," *Journal of the American Statistical Association* (June, 1927), p. 152.

$1,000,000, and that six hundred persons had from $500,000 to $750,000. If the population had remained the same and every one's wealth had been doubled, in 1900 there would have been one thousand millionaires, while if the population had increased fourfold, with the *relative* position of different income-receivers unchanged, we should then have four thousand millionaires. Nevertheless, the increase of large fortunes has been so startling that in spite of these considerations it may be right to regard them as an indication of a growing concentration of wealth. The lists of very rich men published in the United States from time to time are instructive on this point. In 1820 men with a personal property of $20,000 were included; in 1846 a total property of $50,000 was considered very large; in 1855 twice this amount was needed to make a man really rich; in 1892 a man had to be a millionaire to be considered very wealthy, and at present one may even speak of a billionaire.

Causes of Inequalities in the Distribution of Wealth. — The explanations may be divided into two classes: (1) those that emphasize individual responsibility, and (2) those that emphasize social responsibility. According to the first, a comfortable fortune is the reward of efficiency, and poverty the penalty of inefficiency. To find fault with existing wealth distribution, it is alleged, is to find fault with nature for making individual differences in ability so enormous. That there are idle and worthless persons among the rich is not to be denied, but they, it is said, are to be regarded as the exceptions. As a class, according to this view, the rich add more to the wealth of society than they consume, and they do not in reality deduct anything from the income of the lower classes.

Those who emphasize the second explanation, on the other hand, point to the existence of all sorts of special privileges which enable the few to levy toll on the production of the nation. They assert that the fortunes of most millionaires originated under the shelter of some monopolistic enterprise. As to the poor, they call attention to the fact that inefficiency may be the *result* of poverty as well as the cause of it. Society must, therefore, take active measures to better the environment of the poor. They must be taught to live wisely, and their children must be given a fair

chance in life. Children who do not get enough to eat when young cannot be expected to take care of themselves when they are men and women. Those who take this second view do not deny that individual differences in ability exist and lead to differences in fortune. But they think that the differences in reward are quite out of proportion to differences in ability.

Some go so far as to hold that ability is solely a matter of heredity, that environment plays a negligible part. So far as economic efficiency, at any rate, is concerned, this is more than can be granted. Efficiency in many economic pursuits requires training, the mastery of a certain technique, as well as innate ability. So long as some children are forced early in life into "blind-alley" occupations, while others have the advantages of a lengthy and expensive preparation for their life work, it is idle to speak of the distribution of efficiency, of earning power, as being dependent solely upon the distribution of innate abilities.

On the other hand, those who stress the importance of inherited differences undoubtedly have much truth on their side. Down at one end of the scale, for example, are those whose physical or mental defects put them below the margin of utilization and make them economic dependents. There can be no doubt, moreover, that the poorer classes contain a much smaller proportion of highly efficient persons than do the wealthier. On the other hand, scarcely any one doubts that there are *some* potentially efficient persons among the poorer classes, just as there certainly are some very inefficient persons who, for one reason or another, enjoy the advantages of wealth.

It does not follow, however, that even when viewed in the large, wealth is distributed in proportion to ability. The skewness of the distribution of incomes indicates, although it does not prove, the presence of inequality in the distribution of opportunity. And the fortunes of the wealthiest are so large as to seem to be disproportionate to any conceivable differences in efficiency. Among the wealthiest men in the world certain native princes of India and certain American captains of industry are commonly named. Is privilege responsible in the one group of cases as in the other? Looking over the sources of great modern fortunes we find that

inherited wealth, monopoly, and successful large-scale speculation play an important part. In many instances, however, great fortunes have been made by the successful conduct of competitive or semi-competitive business undertakings. In this connection there are several things which it is important to remember. In the first place, in business as well as in politics and art, allowance must be made for the appearance of the exceptional "genius." In the second place, even a relatively small difference in the efficiency with which it is conducted may make a very large difference in the earnings of a gigantic business undertaking. It may be real economy for a corporation to pay $100,000 a year to the best man in sight rather than $50,000 to the second-best man. In the third place, many great fortunes have been made in fields of enterprise in which the risks are great. The men who have played for high stakes and lost are forgotten. The few who succeed become conspicuous.

Is Greater Diffusion Possible? — Most people agree that a greater equality of possessions would be desirable if it could be brought about without any lessening of the incentives the present system offers to the more efficient members of society. The ideal of a leisure class whose mission it is to further culture without substantial contributions to the production of what it consumes, does not find much favor in this democratic age. The disadvantages of wide extremes in wealth have been so often pointed out by social philosophers that they need not be emphasized here. But some who believe that the competitive system roughly apportions rewards according to individual production will say that nothing can be done directly to diffuse wealth. That each individual should bear the consequences of his own conduct, they think, is necessary as a discipline for the race. "Give the children of the shiftless, by thoughtless charity or various systems of poor relief, the right to eat the substance of the efficient and the prudent, and you will soon lose both the capital and the morality under which that capital has been created," [14] says one able writer.

Those, on the other hand, who think that something can and should be done, question the possibility of discovering the real

[14] A. T. Hadley, *Economics* (G. P. Putnam's Sons, New York, 1896), p. 49.

contributions of individual workers under modern complex industrial conditions with any degree of exactness, and think there is little danger of discouraging industry and thrift. If the highest incomes were $100,000 per year, men would struggle just as hard as they do now to get into the highest class. But there is danger of injuring by wrong methods the very persons whom it is desirable to elevate. Indiscriminate charity may convert poverty to pauperism.

We shall not discuss here the methods of alleviating the suffering that comes from poverty. The best methods of charitable relief are necessary as palliatives, but they cannot cure the evils of poverty.

Modifying the Methods of Wealth Acquisition. — These measures fall into two classes: (*a*) prevention of improper methods of wealth accumulation; (*b*) eliminating or strengthening the inefficient members of society. Under the first of these falls the problem of reducing to lower terms such incomes as are individually unearned. There must be such control of monopolistic privileges as to keep them from being the means of exploiting the public. Fraud and favoritism must be eliminated so that income shall not be wholly out of proportion to service or needs. Real, not nominal, equality of opportunity must be established and maintained.

The second class includes a large variety of methods. (1) It is possible to do something to prevent defective human beings from being born. There is a growing sentiment in favor of preventing the marriage of persons who are not fit for marriage. No individual would be deprived of any important right if a medical certificate of good health were made a condition precedent to the granting of a marriage license, although here education may prove the more effective remedy. (2) Education should be made compulsory, with the endeavor of making the rising generation not only efficient producers, but also wise spenders of what they receive. (3) It is possible to provide against the misfortunes of life by insurance of various kinds. If men will not voluntarily make provision for themselves and for those dependent upon them in cases of sickness, accident, old age, and premature death, they should be helped to do so indirectly by some comprehensive system of work-

ingmen's insurance and old age pensions. (4) The solution of the problem of unemployment depends largely upon indirect measures, such as monetary and banking reform, which steady the progress of industry, although more efficient labor exchanges and unemployment insurance are direct measures which are of some small help. If business men and political leaders ever become as much interested in the problems of unemployment as in tariff reform, we may expect that productive use will be found for the unemployed so far as they are employable. We shall recognize that society must offer a willing and able man an opportunity to work. (5) Opportunities for saving and methods of encouraging thrift should be multiplied. (6) The health and vigor of the people should be improved by more efficient use of "preventive medicine" and public hygiene in all its various phases, and by improvement in the conditions of work.

To some extent large fortunes disappear without governmental interference, but it takes comparatively slight ability to maintain an inherited estate. It does not seem practicable or desirable to limit directly the total amount of wealth which a man may own, but there is no reason why the government should refrain from consciously encouraging the diffusion of wealth. The regulation and taxation of inheritances exercise a helpful influence if applied with care and moderation. Excessive tax rates lead to evasion of the tax rather than the diffusion and equalization of wealth.

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BOOK III

PROBLEMS OF INDUSTRY, LABOR, AND GOVERNMENT CONTROL

CHAPTER XXVI

BUSINESS ORGANIZATION

The Meaning of "Business." — The dominance of "business" in our present economic life is so familiar and commonplace a thing that we are prone to forget its real significance. "Business" means profit seeking. It does not cover so broad a field as does "production," nor is it quite the same thing as "production for the market." Business is acquisitive rather than productive, and while acquisition usually involves production, this is not invariably the case. Business operations consist, fundamentally, in buying or hiring things and in selling them or using them for the purpose of gaining a profit. Among the things thus bought or hired are land, labor, capital goods, and business privileges or advantages, such as franchises, patents, copyrights, and "good-will." The economic world, in its business aspect, is a world of buying and selling rather than of making and using things; it is a world in which prices, expenses, debts and credits, and contractual relations are the dominating things rather than the technical processes of production or the ultimate costs of production as measured in human effort and sacrifice.

The Individual Entrepreneur. — Any individual may set himself up as a business man, an entrepreneur, without any legal formality other than the payment of the license fee which most states impose on some few kinds of business undertakings and which some states, especially in the South, impose upon many kinds of undertakings. The individual entrepreneur still dominates the field in agriculture, in small retail trade, and in local "shop industries."

In the legal aspect the obligations of a business conducted by an individual entrepreneur are the personal obligations of the

entrepreneur. All of his possessions — of whatever kind [1] — are jeopardized by his business risks. If the entrepreneur conducts two distinct business undertakings, the assets of one may be seized, if necessary, to secure the liabilities of the other. The personal liability of the individual entrepreneur is accordingly said to be *unlimited*. The usefulness of this kind of business organization is limited, obviously, to small undertakings, where the capital and credit of the individual man are adequate.

Partnerships. — A firm or partnership represents a joint undertaking by individual entrepreneurs. Partnerships are most common in mercantile undertakings of moderate size, in small manufacturing establishments, and in the professions. This joining of interests makes larger undertakings possible, but relatively increases the personal liability of the individual members of the firm. For each member is personally liable for all of the obligations contracted by the firm, including those contracted in the ordinary course of business by any other member of the firm.[2] The partners may have a contract binding among themselves as to their respective contributions (of money or time), shares in profits, and liabilities. But a member released from personal liability by an agreement of this kind is still liable for all obligations incurred by the firm. The agreement only gives a basis for instituting legal proceedings to recover the amount of his personal losses from the other members of the firm.

Aside from (1) the excessive personal liability involved, the partnership is open to objection from the business man's point of view, because: (2) It is impossible for a partner to retire from a firm without dissolving the partnership and, possibly, breaking up the business. The death or insolvency of any partner has the same effect. (3) A new member cannot enter the firm nor can

[1] The "exemption laws" of some states constitute an exception which does not affect the principle involved.

[2] This refers to the status of the ordinary partnership under common law. The statutes of most of the states provide for a special form of *limited partnership*, in which one or more of the partners are *special partners*, who are not personally liable, save for their investment in the business, and who are allowed to take no active part in the management of the business. In a few states there is a special form called a *limited partnership association*, in which the liability of all the partners is limited. These are practically joint-stock companies with non-transferable shares.

a member transfer his interests to another person without the consent of all the members of a firm, — requirements which naturally follow from the nature of a partnership. (4) The partnership form of organization is not adapted to undertakings requiring large investments of capital and hence requiring the coöperation of a large number of persons. What advantages the partnership has come from the ease with which it can be organized and dissolved, and from its elasticity, — that is, the ease with which the contractual relations among the partners, binding as among themselves, can be altered to suit any contingencies that may arise.

The Business Corporation. — The federal census of 1919 showed that, although only 32 per cent of the manufacturing undertakings included in that enumeration were organized as corporations, yet these produced 88 per cent of the total manufacturing product (measured in money value). Most banks and insurance companies are corporations, while in the field of railway transport corporations are in almost exclusive control. And a large and growing number of mercantile undertakings are organized as corporations.[3] While the ordinary partnership is in law merely an association of individual entrepreneurs, the corporation is regarded, for some purposes, as a "person." The corporation, for example, is held by law to "own" its property.

Municipalities, universities, monasteries, gilds, etc., were commonly incorporated by royal charter long before business corporations of the modern kind arose, — for this did not occur until the rise of "capitalism" in the sixteenth and seventeenth centuries. The great trading and colonizing companies, such as the British East India Company, the Virginia Company, the Guinea Company, etc., were the prototypes of the modern business corporation. In connection with these trading companies the *joint-stock* principle, which had already been used in a few isolated

[3] Several states authorize the organization of "joint-stock companies" which are like corporations in many particulars. In theory they are partnerships with transferable shares and (in some cases) with limited liability. Joint-stock companies are also organized under the common law in some states. In the British empire the name "joint-stock company" is applied to a statutory limited-liability association, essentially like the American business corporation, while the word "corporation" is usually applied only to municipal corporations and certain long established companies, created by special charters.

instances of banking, was developed. This was the practice of issuing certificates to those who made contributions to the "joint stock" (or capital) of a company, which entitled the holder to a proportionate share in the profits accruing to the joint stock. The modern business corporation, like these early trading companies, is based essentially on the combination of the joint-stock principle with the legal recognition of the business unit as a distinct entity.

At the beginning of the nineteenth century what few corporations there were in America were, for the most part, banks, insurance companies, or canal and turnpike companies. The introduction of railways in the third decade of the century greatly stimulated the organization of corporations, because these new undertakings required larger investments of capital than could be furnished by any individual or firm. State enterprise, it is true, promised at one time to be an important factor in canal and railway building, but such state undertakings were usually planted with the purpose of developing natural resources, attracting immigration, and building up the trade of particular districts and particular cities rather than of getting money profits. Most of these state undertakings had succumbed by 1840, so that the field was left open for business enterprise. In the general expansion and reorganization of business that followed the Civil War the corporation form of organization began to be more generally used for all kinds of business undertakings. The growing importance of corporations in business life is partly an effect and partly a cause of the growing size of the business unit.

The Corporation Charter. — The corporation is a creature of the state, its right to exist being dependent on a *charter* or on *articles of incorporation*, granted or approved by the state. Incorporation formerly necessitated a *special act* of the legislature in each case. This gave opportunity for favoritism and monopoly and subjected corporations of all kinds to hostility and suspicion. Most corporations are now organized under *general laws*, whereby any group of men can secure a corporation charter by complying with certain prescribed conditions. In fact, all but six states now have constitutional provisions against the granting of charters to business corporations by special act.

It was formerly a common practice to grant corporation charters in perpetuity, but the decision of Chief Justice Marshall in the Dartmouth College case (1819), whereby the corporation charter was declared to constitute a binding contract between the state and the corporation, which could not be altered or amended by the state except with the consent of the corporation, has led to the general practice of limiting the life of corporations, fifty years being a common period. The corporation may, of course, secure a new charter at the expiration of the old, but the limited term gives the state the opportunity to change the requirements of the charter from time to time, or to refuse reincorporation altogether, as may seem most desirable. Most states, moreover, now specifically reserve the right to alter or amend the corporation charter at pleasure.

Corporation charters, or articles of incorporation, usually contain details relating to such matters as the purpose or purposes for which the corporation is formed, its principal place of business, the number of its directors, and the amount of its capitalization.

Lack of Uniformity in State Laws. — Many difficulties in the public control of corporations have arisen from the fact that while charters are granted by individual states, the activities of many business corporations extend over the boundaries of many states. Moreover, some states are much more lenient than others in such matters as the control of capitalization, requirements as to publicity, limitations on the scope of activity of a single corporation, taxes and fees, etc. New Jersey at one time became known as the "home of corporations" despite the fact that some states had even more lenient laws than New Jersey. In recent years, however, Delaware, Maryland, and other states have outdone New Jersey in providing agreeable "homes" for corporations.

So far as a corporation organized under the laws of one state carries on any part of its business wholly within the borders of another state, the latter state has the right of refusing to recognize it as a corporation; in other words, it has the right to treat it as a mere partnership. In practice, however, one state freely recognizes the corporations of another state under the rule of "interstate comity." In fact, many corporations transact practically all of their business outside the borders of the state which chartered

them. The real standards, therefore, are the laxest standards, not the highest.

Corporation Capital and Capitalization. — The business world uses the term "capital" in two ways. It speaks of the total investment — the amount of money "tied up" in a business unit — as its capital. This is the better and more common usage. But it also speaks of the total selling value of the business unit as a whole as its capital. This last will depend not so much upon the amount of the investment as upon its profitableness. It is roughly measured by the "capitalized" earning capacity of the business, or by the market value of the corporation's stock and bonds.

The *capitalization* of a corporation should not be confused with its capital. The business man usually means by capitalization the outstanding stock of the corporation plus the permanent or funded debt. Capitalization has been well described as "the sum total of the valuation of both the issued capital stock and bonds as well. In other words, it is the value of all the securities issued by the corporation, whether these be stock of various sorts or bonds." [4] This definition of capitalization, however, is not applicable if the shares of stock are of the no-par-value type. In this case capitalization would be the total par value "of all the stocks and bonds combined which are of the par-value type, increased by whatever sum has been brought into the treasury (of the corporation) by the sale of shares of no-par-value." [5] In a strictly legal sense the capitalization of a corporation is the amount of its authorized capital stock.

Corporation stock is divided into two general classes, — *preferred stock* and *common stock*, although many corporations issue only the latter. Preferred stock represents a prior claim on the earnings of the corporation. A corporation which has "6 per cent preferred stock" outstanding can pay no dividends to its common stockholders until it has paid 6 per cent dividends on its preferred stock. Preferred stock may be *cumulative* (in which the prior claims to dividends accumulate from year to year, if unpaid) or *non-cumulative*. It may or may not have any claim on any part of

[4] A. L. Bishop, *The Financing of Business Enterprise* (Harper and Brothers, New York, 1929), pp. 149–150. [5] *Ibid.*

the surplus profits remaining after a stated rate of dividend has been paid on the common stock.

Bonds represent the capital lent to the corporation. They are interest-bearing promises to pay certain sums of money at definite times in the future. Bonds are sometimes said to represent "creditor interests," and stock "proprietorship interests." This statement is suggestive and is not inaccurate. In a more general sense, however, stock and bonds are merely different kinds of equities in a business unit, — conveying the right to receive income, to share in the distribution of the assets in case of insolvency, and to have a voice in the management. Stockholders alone participate in the management of the corporation, although bondholders are often able to dictate policies when the affairs of a corporation are in a precarious condition.

Overcapitalization. — Much has been said about the overcapitalization of corporations, — "stock watering," as it is called. On the one hand it is urged that capitalization is a nominal thing, that it is immaterial whether a corporation pays 12 per cent dividends on $1,000,000 of capital stock or 6 per cent dividends on $2,000,000 of capital stock. On the other hand it is said that capitalization should not be a merely nominal thing, but that it should correspond to the actual amount of the investment; that, without regard to the amount of capitalization, regularly recurring dividends of 12 per cent suggest excessive profits in a way that 6 per cent dividends do not.

There is a prevalent but entirely mistaken belief that overcapitalization is often the *cause* of exorbitant charges. It is thought that the desire to pay dividends on an inflated capitalization leads corporations to exact a higher return for their products or their services than they otherwise would. But it can easily be seen that such cannot often be the case. For whether its capitalization be high or low the corporation will desire to fix its charges at the level which will yield the greatest possible profits. The magnitude of the corporation's capitalization will have no bearing upon the determination of the most profitable level of charges. The charges which would be most profitable under a low capitalization will also be the most profitable under a high capitalization.

A weightier indictment of overcapitalization is that it has opened the door to a number of reprehensible practices in corporation promotion and management. Where there is no definite correspondence between capitalization and investment it is difficult to make sure that some persons will not be able to acquire the securities of a given corporation on much easier terms than others. Overcapitalization often makes available, for example, what may be termed a surplus of stock, and this surplus, instead of being distributed equally among the different stockholders, may be used in a disproportionate and extravagant payment to the promoter (or organizer) of the corporation, or the bankers who have assisted in marketing its securities. Or a group of men in control of a corporation may reap an unfair advantage at the expense of other security holders by turning over to the corporation properties of which they themselves are the owners in return for an exorbitant amount of the corporation's securities.

Operations of the kind just described have only too frequently attended the organization of great industrial combinations in this country. American railway history, also, is full of examples of extravagant sums paid by operating companies to " construction companies " which had been organized for the purpose of building the roads and selling them to the operating companies. These payments were usually made in bonds or stock, and burdened the operating company with either a heavy load of fixed charges or an inflated amount of capital stock. In fact, the time is not long past when it was frequently said of representative American railways that the whole amount of the actual investment in their properties was represented by their bonded debt, while their stock issues represented nothing but prospective surplus earnings. In the promotion of industrial combinations it was common practice to issue enough preferred stock to cover the actual expense of acquiring the various properties brought into the consolidation and to issue in addition a large amount of common stock representing nothing except whatever increase in earning power might result from combination. The common stock, at whatever price it could be sold, represented, in fact, the profits of promotion; and these usually went to promoters and other " insiders."

In both the railway and industrial field, however, conditions are now much improved. In many cases large additional investments have been made out of earnings without a corresponding increase in capitalization; in certain other cases corporations have been reorganized, with reduced capitalization. But, nevertheless, there are fairly recent instances of unfair and even fraudulent use of excessive capitalization as a means of securing special profits for those in control of a corporation's policies.[6] The situation remains one that needs mending.

Two very different methods of regulation have been proposed. The first of these two methods involves limiting a corporation's capitalization to an amount corresponding to the sum of money actually received by the corporation and invested in its business. If securities are issued in exchange for property turned over to the corporation or for services rendered it, a full account must be rendered of all of the circumstances attending such transactions, and an official appraisal of their value may even be required. Such, in general, have been since 1884 the conditions under which joint-stock companies in Germany issue their shares, and it does not appear that these requirements have hindered the organization or growth of such companies in that country.

Under the second method of regulation, corporations are left free to issue their securities in such quantities as they deem best, it being required merely that *publicity* shall be given to the prices at which the securities are sold, to the price placed upon any property or services paid for in securities, and to the disposition made of all money obtained by the issue of securities. This kind of regulation is adopted, in principle, in the British Companies Act, but the mechanism provided to enforce it is not very effective. At best, however, even the most thorough-going publicity respecting the conditions under which securities are issued cannot be a wholly adequate safeguard against the real evils of overcapitalization. Publicity might tend to curb extravagant allowances for personal services, but it would not always prevent the overvaluation of large properties taken in exchange for securities. To think otherwise is

[6] See the special reports of the Interstate Commerce Commission on the St. Louis and San Francisco and the New York, New Haven, and Hartford railways.

to count too much upon the knowledge and alertness of the individual stockholder. Certain American railways have openly paid exorbitant prices for branch lines and other properties, without receiving protests, at the time, from stockholders and creditors injuriously affected by these transactions.

We have done very little in the United States in the regulation of the capitalization, or the other conditions of promotion, of ordinary industrial corporations. Many states, however, now exercise a fairly rigid control over the new security issues of railways and other public service corporations. This regulation, however, does not have as its primary motive the protection of investors or of minority stockholders. It is to be interpreted as part of a general attempt to limit the earnings of such corporations to a fair return upon a reasonable capitalization.

In recent years a mild improvement in the situation has resulted from the widespread adoption of no-par-value stock and also from the operation of the so-called "Blue Sky Laws." No-par-value stock has at least the merit of making no claim concerning the value of the property or investment which it represents. The Blue Sky Laws generally require that the approval of a States Security Commission be obtained before a new security can be sold within the state. The tests or standards which must be met vary from state to state, but in most parts of the country they oblige the corporation to furnish proof that it is an organization of high character, that its earnings are substantial, or that it has behind it substantial fixed assets, such as land and buildings. While these laws cannot be altogether effective and cause considerable annoyance at times to reputable dealers in securities, their effect has been on the whole beneficial.

Form of Capitalization. — It is no uncommon thing for the equities in a railway corporation (in addition to the floating debt, or accounts payable) to be divided among a dozen or twenty varieties of bonds and two or three varieties of stock. This multiplicity of securities is of advantage to the corporation in that it enables it to offer to investors and speculators a carefully graded assortment of risks, and this probably makes the total selling value of a corporation's securities greater than it would otherwise be.

This complex kind of capitalization has, however, some undesirable features. If the owners of a particular security — the common stockholders, perhaps — control the corporation, they may desire to increase the value of their securities for speculative purposes by the payment of unearned dividends, — a proceeding which would be opposed to the interests of the holders of all the other securities of the corporation. Or the holders of preferred stock may wish to put some of the earnings of the corporation back into improvements in its plant, so as to safeguard its future earning capacity, while the holders of common stock may prefer that all the earnings be paid out in dividends. Moreover, in cases of insolvency and reorganization, it is a difficult matter to untangle and to adjust equitably the rights of the holders of the different kinds of securities.

In times of prosperity corporations often pay for extensions of their plants from the proceeds of bond sales, because it is estimated that the earning power of such extensions will more than suffice to pay the interest on the bonds and will afford a handsome surplus for the stockholders. Corporations thus accumulate in prosperous times an unwieldy load of fixed charges in the form of interest on bonds, — a condition which is likely to be a source of difficulty in less prosperous years. Excessive fixed charges are a common cause of insolvency, receiverships, and consequent reorganizations. The legal restriction of the securities issued by any one corporation to one kind of stock and three or four varieties of bonds is both feasible and desirable. Nor should the bonded debt usually be allowed to exceed the amount of the paid-up capital stock.

Corporation Management. — The management of business corporations is, as a rule, in the hands of boards of *directors*, elected by the stockholders from among their own number. The details of management are in the hands of officers, chosen usually by the directors. In principle this system achieves something like representative government of the affairs of the corporation. In practice, in the larger corporations, some of the directors are likely to be "dummy directors," — men exercising no real power or responsibility, made directors in order to complete the number prescribed in the charter, — or are the representatives of great financial interests, and often of competing interests. Directors of this latter sort

are not primarily concerned with the management of a corporation in the interests of its stockholders and bondholders. They are directors for the purpose of guarding special interests, and in many cases for the purpose of preventing competition from becoming anything more active than an armed peace. In some cases the real direction of a corporation's policies is in the hands of an "executive committee" or "finance committee" of three or more directors representing the person or persons in actual control of the corporation.

The general theory upon which the law of corporations is based is that the corporation is a democracy with a representative government. That is, the directors are supposed to *represent* the interests of the stockholders. For many small local corporations this theory undoubtedly corresponds fairly well with the facts. But large corporations, with hundreds or thousands of stockholders, living in different parts of the country, and even in different countries, cannot accurately be pictured as representative democracies.[7] Outside of a group of holders of large blocks of stock, the stockholders, whether a minority or a scattered majority, are likely to be not only powerless but voiceless.

It is difficult and probably undesirable to change this general situation. The growth of large corporations means necessarily the growth of widespread participation in large business undertakings. But the participators, whether stockholders or bondholders, are to be regarded as *investors* rather than active partners. What is needed in our corporation statutes, therefore, is a frank recognition of this situation. In many cases directors cannot, in any real way, "represent" the stockholders. For this reason their responsibility as *trustees* for the stockholders should be emphasized in our laws.[8]

[7] In December, 1922, the number of different stockholders in the corporations named was as follows: Pennsylvania Railroad Company, 138,000; American Telephone and Telegraph Company, 247,000; U. S. Steel Corporation (common stock), 94,000. Shares in these particular companies, however, have an unusually wide distribution.

[8] On this account the development of "express trusts" as business organizations, especially in Massachusetts, is of particular interest. These have "trust deeds" in place of articles of incorporation, "trustees" in place of directors, and "beneficiaries" in place of stockholders. In simplicity, adaptability, and in the protection of investors and creditors, this form of business organization has some real advantages over the corporation. But it has not yet been subjected to adequate public control, and there

Advantages of the Corporation as a Form of Business Organization. — From the point of view of the business man the corporation has decided advantages over the partnership for most undertakings of considerable size. Some of its points of superiority are: (1) Stockholders usually have no personal liability for the corporation's obligations except so far as the full par value of their stockholdings has not been paid up.[9] (2) The relative permanence and stability of the corporation are of decided advantage, especially in undertakings requiring large investments of capital in relatively fixed and permanent forms. (3) It is possible for stockholders to enter or leave the undertaking at pleasure. (4) The division of the securities into small units and into different grades and classes affords opportunities to all kinds of investors, — the small and the large, the conservative and the venturesome. (5) The advantages named make it easier for the corporation to attract and to use efficiently large amounts of capital, furnished by many different investors.

Trusts. — A distinctive feature of the economic development of the past few decades has been the combination of individual corporations into larger concerns, or trusts. The "trust," in the technical sense, involved either giving a board of trustees the absolute control of the actual properties of the different concerns in the combination, or what amounted to the same thing, assigning to them the stock of each corporation, with its voting power, in exchange for "trust certificates," on which dividends were paid. The Standard Oil Trust of 1882 was the first important combination of this kind, but it was speedily followed by several others. In 1890, in a case brought by the state of New York against one of the concerns in the sugar trust, the trust agreement was held to be illegal under common law."[10] Corporate combinations were not destroyed by this

are some minor difficulties in its working. It may prove to be, however, the germ of an important development in business organization.

[9] Exceptions should be made of banking and insurance corporations, in the case of which "double liability" on the part of the stockholders is common. A few states impose some measure of personal liability upon the stockholders of all corporations organized under their laws.

[10] *People* v. *North River Sugar Refining Co.*, 121 N. Y. 582. A similar decision was rendered two years later by the Supreme Court of Ohio in *State* v. *Standard Oil Co.*, 49 Ohio St. 137.

decision. They changed, however, to a more definitely coherent form, — that in which a single great corporation dominates the consolidation.

In most cases this corporation, which is usually organized for the purpose, does not own the actual plants of the various concerns in the combination, but simply owns all or a majority of the stock of each. It is accordingly called a *holding company*. The holding company exchanges its own securities for the securities of constituent companies, or, when necessary, it buys the securities of the constituent companies with funds secured from the sale of its own securities, — sometimes by the sale of bonds secured by the pledge of the securities of constituent companies as collateral. Not only in industrial consolidations, but also in railway and electric railway mergers has the holding company device become important.

A group of capitalists may, by an investment of $1,000,000, for example, control a holding company with a stock issue of $2,000,000, which in turn may control corporations with $4,000,000 of stock outstanding,[11] — and some of these last may in their turn be holding companies. The result is a tremendous concentration of industrial and financial power, with the minimum of liability. The uncontrolled use of the holding company device may lead to neglect of the interests of the minority stockholders in the various corporations concerned; to difficulty in fixing the legal responsibility for corporate misdeeds; to an undesirable complexity in the economic and legal relations of the holders of securities in the different corporations, and to the subordination of industrial to speculative ends.

Trusts as Monopolies. — The "trust problem," however, has attracted more attention as a problem of monopoly than as a problem of business organization. Combination and monopoly, it is important to note, are not identical; we may have either one without the other. Monopoly, as we shall see in the following chapter, implies a sufficient control over the output (or some other phase) of the industry to regulate the market price. Combination involves the bringing together of two or more units of an industry under one

[11] It is assumed, for convenience, that the stock in each case is worth par and that the ownership of half of it will give substantial control. In the case of industrial combinations ownership of all the stock of the subsidiary companies by the holding company is not uncommon.

management without accomplishing effective control of price. The movement toward combination, however, originated in the efforts of business men to escape from the restraints imposed upon them by competition.

There are forms of combination simpler than the trust and the holding company. Agreements to sell only at certain prices, agreements to limit output, the employment in common of one selling agent, pooling (the distributions of orders or of profits to the parties to the agreement in predetermined proportions), and other devices have been used. Such combinations are formed by contracts entered into by a number of individual firms, each of which retains its own autonomy in all other respects. These contracts are unenforceable at common law — being held to be " contracts in restraint of trade " and hence contrary to public policy — so that it is difficult to be sure that any one firm will abide by the contract any longer than it deems it to be to its own individual advantage. Combinations of this sort still persist. Railway rate agreements are, for example, both universal and necessary.

In combinations of a more unified type, each constituent firm yields up its own autonomy and is absorbed by a corporation, usually a holding company, organized for the purpose. These unified combinations, it was thought, would be valid at common law, and would be less vulnerable under the new anti-combination statutes that were being enacted. Their management could be made more effective, and their comparative permanence and dependability made possible the adoption of business policies based on long-time considerations.

Alleged Advantages of Combination. — The motives usually mentioned as the most important causes of corporate combinations are: (1) the economies of large-scale business; (2) the elimination of purely competitive expenses (some kinds of advertising, for example); (3) the power to limit output and control prices.

The first of these factors suggests the difficult question of the most profitable size of the business unit. The question should not be confused with that of the most economical size of the industrial *plant*. Many of our present-day business units are so large that they operate a number of practically duplicate plants. To

that extent, at least, they are larger than is necessary to secure the maximum technical efficiency of the plant.

Nor should the question be confused with that of the condition of decreasing expenses in *an industry at large*. Certain productive advantages sometimes attributed to great industrial combinations — such as the power of utilizing highly specialized plants, equipped with highly specialized machinery and located at the most favorable points — are advantages which do not have to wait upon combination, but which are not only available but certain to be developed in any large and growing competitive industry.

Much has been said of the combination's ability to buy its raw materials on the largest scale, and therefore most cheaply, and of its ability to ship its products in large quantities, and therefore most economically. But it has not been shown that the combination has a marked advantage in these particulars over large competitive establishments, unless we should take account of the unfair discriminations that railway companies have in the past too often made in favor of the large combinations.

The real problem is whether the *mere fact of combination*, taken by itself, brings with it any real net economies in production. Probably combination very often effects some real savings. Uniform systems of accounting and cost-keeping can be introduced; noteworthy economies found in any one of the plants can be introduced in all the plants of the same type; high and uniform standards of management can be enforced by the central administration. Especially in combinations of the "integrated" type, there are undoubtedly real economies in the general coördination of the different successive stages of the industrial process, in the nice adjustment of the supply of raw materials and intermediate products to the demand for finished products, and in the adaptation of transport facilities to the needs of the industry. The Standard Oil Company undoubtedly effected great economies in the transport of oil by its use of pipe lines, and these could hardly have been constructed on so large and effective a scale if the industry had remained competitive.

On the other hand, however, great combinations have certain *disadvantages* inseparable from their size. Their economies are

largely those of systematization and standardization, and these are prone to degenerate into inflexible and deadening routine. The very losses of competition may sometimes be in the long run a real social advantage. For they result in part from variety of experimentation and from the free scope given to individual initiative and individual planning. In competitive industry there is a continuing natural selection of the fittest men and the fittest methods. Nor are the best results always achieved by a hierarchical organization of industry, in which corporation officials, managers, and superintendents watch only over the larger and more general aspects of an industry and depend upon an army of subordinate employees (no matter how scientifically organized and directed) to attend to all details. There is sometimes no effective substitute for intimate personal supervision on the part of those primarily responsible for the success or failure of a business undertaking.

Passing to the second and third general classes of motives advanced as responsible for corporate combinations, it is sufficient here to note that whether purely competitive expenses and competitive prices are eliminated by combination depends upon whether the combination has any real basis of monopoly power over and above the mere fact of combination, which, taken alone, can give at most only a temporary monopoly. For a combination without some real source of monopoly power to attempt to secure monopoly profits is to invite new enterprise and new capital to come into the industry. In other words, it is to induce latent competition to become active competition.

Promoters' Profits. — It is plain that if a particular combination has any or all of the three classes of advantages we have just discussed, its earning power will be greater than was the total earning power of its separate constituent concerns before they were consolidated. Increased earning power will be reflected in the larger value of the securities of the combination — a holding company very likely. This increment in the selling value of securities has in many cases been the real motive leading to consolidation. Such increased capital value may sometimes reflect real economies. In other cases, it may reflect some measure of real monopoly power. In yet other cases, however, it reflects nothing but unwarranted expectations

on the part of investors. Trusts have often been organized by professional promoters, interested merely in securing the increment of capital value arising from the real or mythical advantages of consolidation. A few great trusts like those which have figured in the oil, sugar, steel, and farm machinery industries, have been conspicuously successful. Many others were "made to sell"; that is, were organized only in order that profits might be gained through the sale of their securities, and have been weighted down by a capitalization not justified by their actual earning capacity. Some of these have already fallen to pieces; others have been reorganized, with diminished capitalization.

When judged in terms of the promises of their promoters their histories stand as striking acknowledgments of the inadequacy of mere consolidation as a basis of economic efficiency. Two separate and distinct sets of causes can be discovered to explain why the overwhelming majority of these industrial combinations failed to prove as successful as their promoters had anticipated. One set was psychological in character and concerned with the difficulties attending the administrative management of a large business. The other was economic in character and concerned with the difficulties attending the creation of a business organization sufficiently powerful to dominate an industry in the presence of actual or potential competition.[12]

The Recent Combination Movement. — During the past decade a new combination movement has developed in the United States; a movement exceptional in magnitude, scope, and character. It has not been restricted to one phase of business, such as railways, steel, sugar, or oil, but has been general in all lines of business activity, in banking, public utilities, manufacturing, and mining, and in practically all subdivisions of these large classifications. The magnitude of the movement is indicated by the statistics on page 551, relating to public utilities, manufacturing, and banking, in which the trend toward combination has been most pronounced.

The general trends indicated by these data may safely be taken as

[12] A. S. Dewing, *Corporate Promotions and Reorganizations* (Harvard University Press, Cambridge, 1914), p. 558. Professor Dewing's conclusion, quoted above, is based on a careful study of the more important reorganizations of industrial combinations. He finds the following specific causes of inefficiency: (1) diffusion of responsibility; (2) lack of knowledge of individual employees; (3) lack of loyalty of officers and directors; (4) lack of attention to the laborious parts of the business by higher officials; (5) prejudice of customers against "trusts."

TABLE XXX

MERGERS AND ACQUISITIONS IN PUBLIC UTILITIES, MANUFACTURING, AND BANKING, 1919–1928

YEAR	PUBLIC UTILITIES	MANUFACTURING AND MINING	BANKING
1919	22	89	80
1920	15	173	77
1921	74	89	104
1922	285	67	125
1923	426	67	120
1924	580	95	124
1925	402	121	120
1926	1,029	139	154
1927	911	207	259
1928	874[a]	221	—

[a] Computed from the list given in the *Electrical World* (January 5, 1929), pp. 45–49.

representative of the recent combination movement in general. The number of mergers has been large in almost every year since 1919, and has been increasing steadily year by year. A movement of this magnitude leads to a strong presumption that substantial gains are made through the combination process. It probably remains true, however, that, as past experience has indicated, some loss in productive efficiency tends to accompany the increased separation of management from direct contact with productive processes which combination involves.

Recent mergers have not generally had as their purpose either the formation of monopoly or the profits accruing to their promoters, as was the case in earlier mergers. The advantages derived have been of a different sort. During the past few years, mergers have been quickly followed by new financing — a fact which indicates that increased capital resources and augmented financial strength have been powerful motives in the movement. Combinations can tap large supplies of capital both through organized financial markets, and by direct offerings of securities to their stockholders in the form of stock subscriptions and rights. The pooling of funds permits a more economical financing than would be possible if the combined business were dispersed among the constituent companies existing as independent units.

Combinations have also certain marketing advantages over their smaller rivals. Markets have been constantly enlarged and for many lines of industry have already become national and international in scope. Thus the distribution, selling, and advertising of products are more and more becoming problems involving large areas, and a multiplicity of agencies. Combinations can solve these problems more economically by dispersing the cost of distribution and marketing over a greater area, and by eliminating formerly duplicated expense.

Anti-monopoly legislation, which we shall survey in the following chapter, has also played an important rôle in this consolidation movement. Mass production with its attendant standardization has thrown the burden of competition on price and has narrowed considerably the profit margins of business. Reliance has had to be placed on volume of sales. Escape from the pressure of this

competition might have been effected by uniform marketing arrangements of independent competitors were it not for the fact that such arrangements would undoubtedly be illegal on the ground of "restraint of trade." By combination, however, a uniform marketing policy may be legally adopted which would be illegal, if practiced by constituents as independents.

Finally, we have some evidence supporting the view that combination leads to greater stability of earnings, through a greater control over all phases of the business. Small enterprises record wider variations in the random and casual fluctuations in business than the larger concerns, while the larger corporations, though subject to wider cyclical fluctuations of production and employment, keep their earnings on a more stable level. This difference in the character of fluctuations is probably the result of a more or less conscious policy on the part of the larger companies to shut down production during times of business depression in preference to cutting prices. These concerns thus elect to take the loss of shutdown rather than the loss on inventory from a drop in prices.

That these advantages are real and worth while, in spite of the possible loss in productive efficiency, cannot be doubted. An increasing proportion of the nation's business has been going to the larger concerns, and their stocks have in general enjoyed greater advances than those of smaller concerns. Such advances, it is maintained by some authorities, have not been the result of a lowered cost of manufacturing or operation, but of the more intangible advantages of increased good-will, enlarged financial strength and stability, and greater flexibility in production management.

Social Aspects of the Growth of Corporations. — The gap between money-making and service to society (not always identical things) is distinctly widened when those in control of a corporation's policies subordinate the profits to be obtained by the sale of its products to the profits to be obtained by speculation in its securities. The payment of unearned dividends, the non-payment of earned dividends, the direction of a corporation's policy for the benefit of the holders of one kind of security among the different ones issued by the corporation, the effecting of corporate combinations and reorganizations that will affect the stock exchange rather than the

produce market, — such are some of the more obvious results of the unfortunate relation between corporation management and speculation in corporation securities.

It should also be noted in this connection that the growth of corporations is bringing with it a subtle but very significant change in the nature of the institution of private property. So far as a large and increasing proportion of productive wealth is concerned, we are losing that direct relation of ownership between men and goods which Arthur Young had in mind when he said, " The magic of property turns sand into gold." We often have, instead, several layers of corporation securities interposed between the ultimate owners and the ultimate objects of ownership. The effect of this will undoubtedly be to bring about the more thorough domination of business principles in the business world. Sentiment, the honorable traditions of long-established firms, the " pride of ownership," the joy of workmanship (which may be felt by the employer who turns out a good product, as well as by the workman) are bound to yield yet more completely to the sway of the cold logic of corporation accounts and stock market quotations. Business relations will become more *impersonal*. The adequacy of purely business principles as the foundation of our economic life will be tested more thoroughly under the corporation form of organization than ever before.

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CHAPTER XXVII

MONOPOLY AND TRUSTS

The Idea of Monopoly. — In a competitive market there are rival sellers and buyers, and prices are determined, on the one hand, by the efforts of sellers, acting independently of one another, to dispose of commodities and services, and on the other hand, by the efforts of purchasers, acting independently of one another, to secure commodities and services. Competitive prices, as we have seen, are beyond the control of any one buyer or seller.

Monopoly, as contrasted with competition, denotes combination or some other form of *unified action*. It implies restraint on the free offering of commodities and services by rival sellers and on the free purchase of these commodities and services by rivals who desire to secure them. The word " monopoly " itself, more narrowly interpreted, means a condition in which there is a single seller or a single purchaser. More widely, it signifies unity in the management of some kind of business in some essential particular.[1]

The particular in which unity is secured in the case of monopoly may be in production, it may be in sales, it may be in purchases; or it may be in any two or all three of these particulars. This use of the term " monopoly " gives us a clear and workable concept. We may formulate it more precisely as follows: *Monopoly means that substantial unity of action on the part of one or more persons engaged in some kind of business which gives exclusive control, more particularly, although not solely, with respect to price.*

[1] Lord Coke, in the seventeenth century, said that monopoly consisted of power granted "to any person or persons, bodies politic or corporate, for the *sole* buying, selling, making, working, or using of anything, whereby any person or persons, bodies politic or corporate, are sought to be restrained of any freedom or liberty that they had before, or hindered in their lawful trade" (3 *Institutes*, 181). Blackstone, in his *Commentaries on the Laws of England*, gave almost precisely the same definition in the following century The Supreme Court of the United States (*National Cotton Oil Co.* v. *Texas*, 197 U. S. 129) has adopted the definition of monopoly given in the text, above.

The Idea of Monopoly and Industrial Evolution. — But the meanings of economic categories change with industrial evolution. Even such terms as freedom and liberty have to be newly interpreted with every new stage and even with every marked phase in a stage of economic life. Naturally monopoly has acquired a new significance, requiring new interpretation. The earlier legal definitions made monopoly proceed from an express grant of public authority. Lord Coke said: "A monopoly is an institution or allowance by the king, by his grant, commission, or otherwise"; and Blackstone used similar language in defining monopoly "as a license or privilege allowed by the king."

Historically, this source of monopoly power is of paramount importance. From early times, English sovereigns granted monopolies either for public or private reasons, and they became a grievous burden. Queen Elizabeth, in particular, sinned in this respect, regarding the right to grant monopolies as "one of the fairest flowers" in her prerogative, and it was not long before the citizen found himself restrained and shut in on every side by a privileged class of monopolists. In 1603, it was decided, in a famous case, with respect to one of Queen Elizabeth's grants: "That it is a monopoly and against the common law. All trades as well mechanical as others which prevent idleness (the bane of the Commonwealth) and exercise men and youth in labor for the maintenance of themselves and their families, and for the increase of their substance to serve the Queen when occasion shall require are profitable for the Commonwealth, and therefore the grant to have the sole making of them is against the common law and the benefit and liberty of the subject." Parliament, in 1624, passed a statute declaring that "all monopolies are altogether contrary to the laws of this realm and are and shall be void and of no effect." Exceptions to this rule were sometimes made upon one ground or another. Patents and copyrights, for example, were excepted. But the general principle of the illegality of special grants of monopoly became thoroughly established in English law.

Our forefathers, bringing with them the English spirit of hostility to monopoly, frequently inserted severe denunciations of monopolies in the early constitutions of our commonwealths, and prohibited

them unqualifiedly. These declarations and prohibitions still remain in several states. The constitution of Texas declares that "monopolies are contrary to the genius of a free government, and shall never be allowed," and there are closely similar declarations in the constitutions of other states.

While the spirit of monopoly is as old as man, there was until this century comparatively little opportunity for monopoly on any large scale save as it proceeded from express grants of public authority. Sometimes these grants were made for public purposes, and sometimes they proceeded from mere abuse of monarchical power, and were given to favorites of royalty. At the present time, however, monopolies proceed from the nature of industrial society, and are of far greater significance in our economic and political life than ever before. The really serious monopolies of our day are far more subtle, and have for the most part grown up outside of the law, and even in spite of the law. Framed with a view to only one kind of monopoly, our law was at first wholly inadequate to cope with these new and varied manifestations of monopoly.[2]

Things Sometimes Confused with Monopoly. — One thing which does *not* yield monopoly is mere limitation of supply. It is strange that even an economist of the ability of John Stuart Mill should have found the essential feature of monopoly in this limitation; for this at once makes monopoly cover the entire field of economic activity. It is only things limited in proportion to human desires that command a price in the market.

The economists who accepted Ricardo's theory of rent held that land was a monopoly, "though a natural one." It has been shown that this idea is no longer accepted. Nowhere do we find monopoly either in the ownership or in the cultivation of land, but everywhere competition — competition among unequals, to be sure, but still competition. We must distinguish between the broad concept of

[2] Modern industrial monopolies are often quite as much akin to the offense known in the old English law as "engrossing" as they are to the old notion of a monopoly granted as a special privilege. The engrosser was one who bought large stocks of goods in a market or on their way to a market with the purpose of selling them later at a higher price. The opposition to engrossing seems to have been based partly on hostility to unnecessary middlemen and partly on the fear of temporary monopolies, created by "cornering the market." Later, the terms engrossing and monopolizing came to be generally used as synonymous in court decisions.

differential gains enjoyed by those in competitive pursuits, and the monopolistic gains which are based on the absence of competition.

Just as sharply must we distinguish between competitive businesses of large magnitude and monopolies. Department stores in no city in the world enjoy monopolies, but are subjected to the steady, permanent pressure of competition. There are those who call every business operating on a vast scale monopoly, and would put in the same economic category a gas works without a competitor and a huge retail dry-goods establishment with rivals at every hand, ready to seize every opportunity for an advantage over it, and certain to ruin it if its managers relax their intense activity and watchfulness.

Classification and Causes of Monopolies. — In the first place, there are (1) *public* monopolies, owned and operated by some political unit, for the benefit of the community, and (2) *private* monopolies, owned by private persons, firms, or corporations, and operated primarily for their own benefit.

In the second place, monopolies may be (1) *local*, (2) *national*, or (3) *international*. This classification is more or less arbitrary, but it suggests that the *area* of the operation of a monopoly is a matter of much importance. There may be only one seller of shoes on a particular street or in a particular building. We do not call him a monopolist, because the area in which this shoe dealer is without competitors is much smaller than the area in which the forces which fix the retail price of shoes operate. It is not sufficient that one should be the only seller or buyer in a certain definite area. For monopoly to exist it is necessary that the unified control of the buying or selling of a particular commodity or service should extend *throughout the area of the market*, whatever that area may happen to be. The supply of gas, or of street railway transport, is in most cities a real monopoly, because the market itself is in such cases merely local. Two young men in Chicago some years ago cornered the market on eggs. The weather was so cold that eggs could not be shipped to the city, and thus the speculators had a temporary local monopoly. A protective tariff or other impediments to international trade may sometimes enable a monopoly to exist in one country when the same article or service is not

monopolized in another country. Various attempts have been made to establish international monopolies, but none of these has been entirely successful. Agreements restricting competition between the producers of different nations are known to have been effected in the steel, copper, chemical, petroleum, and other industries, and in the petroleum trade.

We pass now to a third classification of monopolies, according to the *source of monopoly power*. This classification is especially important, because we shall not know how to deal effectively with monopolies until we understand just why and how the different kinds of monopolies have come into being.

A. Social Monopolies.
- I. General welfare monopolies.
  1. Patents.
  2. Copyrights.
  3. Public consumption monopolies.
  4. Fiscal monopolies.
- II. Special privilege monopolies.
  1. Those based on public favoritism.
  2. Those based on private favoritism.

B. Natural Monopolies.
- I. Those arising from some special limitation of the supply of raw material.
- II. Those arising from secrecy.
- III. Those arising from peculiar properties inherent in the business.

Social Monopolies. — Businesses are social monopolies *when they are made monopolies not by their own inherent properties, but either by legislative enactment or by special advantages or privileges granted to them by other monopolies*.

Social monopolies cannot exist without the acquiescence of society. They are artificial creations. There is no reason, therefore, why social monopolies should be permitted, except in so far as particular social monopolies are deemed to be advantageous means of achieving socially desirable ends.

Exclusive privileges are conferred (for limited periods) by *patent*

and *copyright* laws because of the stimulus they give to invention and authorship. Patents lead to several different kinds of monopolies. (1) In some instances the monopoly is limited to the control of the supply of the patented article itself. (2) In other cases the use of a patented machine or process in the manufacture of some other product may give advantages important enough to create a monopoly in the supply of that product. (3) Sometimes the owner of a patent endeavors to extend the scope of his monopoly by refusing to sell his patented products except on the condition that other commodities, used in connection with the patented product, be purchased from him and not from his competitors. Such agreements have been employed in selling or leasing mimeographs and of shoe machinery. These "tying contracts" were made illegal by the Clayton Anti-trust Act of 1914. (4) Again, the patent system sometimes operates so as to perpetuate a monopoly already established. New inventions often cannot be profitably utilized except in connection with machines or processes which have previously been patented. For this and other reasons it frequently happens that an existing monopoly affords the only market for the improved machines and processes adapted to some particular industry. This has been an important factor in the telegraph, telephone, and electrical industries.

But although our patent laws need careful revision, the policy of granting inventors a temporary monopoly continues to meet with general social approval. Copyrights stand upon even firmer ground. To do away with copyrights would lessen the incentives to authorship and would prevent the publication of many good books.

Trademarks, like patents, are monopolies in the strictly legal sense that no one else may use them. But, unlike patents, they do not lead to a monopoly in the economic sense of giving exclusive control of one sort of business. They are used largely in competitive business undertakings as a help in establishing and maintaining what is termed good-will. The law also forbids the fraudulent imitation of established brands, firm names, and distinctive forms of packages. In so far as a successful business man in a competitive field is able to induce people to believe that it is better to purchase his particular

brand of goods than to take the chance of getting a possibly inferior quality by purchasing his competitor's products, he may be able to lift himself a little above the " dead level " of competition. He may even find that he can increase his net profits by putting the price of his goods somewhat higher than that at which precisely similar goods are sold in the market. By thus successfully marking off his product as something distinct from and possibly superior to his competitor's goods, he is able to obtain what might be termed a quasi-monopoly. But because his power to control the price of his product is in general much more limited than that of the true monopolist, and because competition limits and conditions his activities in other ways, his business is more properly called competitive than monopolistic.

Public consumption monopolies and *fiscal monopolies* are to be distinguished the one from the other only by the object or purpose which the government has in view in establishing them. If a government manages for itself or grants to some firm a monopoly of the liquor traffic with the object of regulating the consumption of liquor, the monopoly is a public consumption monopoly. If, on the other hand, the chief object is not regulation, but revenue for the government, the monopoly is a fiscal one. Often the two objects are blended. The production of salt has at one time or another been a public fiscal monopoly in many different countries. The sale of tobacco is a fiscal monopoly in France. In recent years Japan has established a number of fiscal monopolies.

The old monopolies established by special grant of the sovereign were in some cases fiscal monopolies, a revenue being derived from the monopolist in the form of taxes or royalties. In other cases, however, they were based merely on *public favoritism*. A monopoly in one country, protected by a high tariff from the competition of producers in other countries, is rightly said to be based, so far as all or part of its monopoly power is concerned, on public favoritism. Monopolies based on *private favoritism* derived their monopoly power from special advantages granted them by other monopolies, especially natural monopolies. Railways rebates have been in the past a fruitful source of monopoly.

Natural Monopolies. — These *depend for their existence on natural*

forces as distinguished from social arrangements. They grow up independently of man's will and desire and sometimes even in direct opposition to it. The words we have used to designate the first two classes of natural monopolies are self-explanatory. Natural mineral waters and certain wines made from grapes grown only in certain small areas afford good examples of monopolies derived from *special limitations in the supply of raw materials.*

The Kimberley mines, of South Africa, virtually controlling the amount of annual additions to the world's stock of diamonds, constitute a monopoly of this class. The limited area in which anthracite coal is produced in the United States is an important contributing cause of the monopolistic control which has often prevailed in that industry. Monopolies based on *secrecy* are no longer of great importance, although the use of secret processes remains in some instances a source of monopoly.

By far the most important of all monopolies are natural monopolies of the third class, arising from peculiar *properties inherent in the business.* Among such monopolies are roads and streets, canals, docks, bridges and ferries, waterways, harbors, lighthouses, railways, telegraphs, the post office, electric lighting, waterworks, gas works, and street railways of all kinds. What are the properties inherent in such businesses that make them naturally monopolistic? In some instances it will be found that the *possession of peculiarly favorable spots or lines of land* may give advantages important enough to create monopoly. This may be true, for example, of harbors, docks, street railways, rights of way through mountain passes or along narrow river valleys, and railway terminals in large cities. Often these are things which cannot be duplicated at all or can be duplicated only at a practically prohibitive expense. Monopolies created by the presence of such conditions are similar to natural monopolies of the first class.

Natural monopolies of this third class are, however, more often rooted in *conditions that make competition self-destructive.* These conditions are three in number, and the presence of all three is generally necessary to create monopoly: (1) The commodity or service rendered must be of such a nature that a small difference in price will lead buyers to purchase from one producer rather than

from another. (2) The business must be of such a nature as to make the creation of a large number of competitive plants impossible. Either because the business is one in which special advantages attach to large-scale production or because there are actual physical difficulties in the way of the multiplication of competing plants, there must be fairly definite limits to the possible increase of the number of plants among which the business might be divided. (3) The proportion of fixed to variable expenses of production must be high. These conditions, the reader will note, are conspicuously present in the operation of railways and of the so-called local public utilities, as well as in other industries in which natural monopoly prevails.

The chief reason why competition cannot be maintained in this field is that under the conditions we have listed *competition fails to fix a normal price* remunerative enough to attract the recurrently necessary fresh investments of capital. Competition succeeds when either, first, the expenses of production are largely variable expenses, or, second, the total output of the industry comes from a large number of competing business units, some successful, others, very likely, operating on the narrowest possible margin of profits. When either of these two conditions is present in an industry, the aggregate amount of the output will be delicately sensitive to changes in market price. If the price rises, the output will be increased; if it falls, the total output, and with it the total expenses of production, will be diminished. In either event the change in price will be checked, and through this process, market prices will, in the long run, be kept just about high enough to induce the industry to maintain an output of whatever size may be justified by the demand for it. That is, the forces which fix a *normal price* will operate effectively.

But if there are, at the most, only relatively few competing establishments in an industry, if fixed expenses are relatively large as compared with variable expenses, and if the market for the commodity or service produced is quick to take advantage of price cutting on the part of one or more of the establishments, it will be difficult to maintain competitive conditions.

What would happen if one of the railways running between

Chicago and New York should reduce its freight rates? First, it would immediately get a large share of the traffic. Second, the other railways would be forced to lower their rates, so that if the first railway desired to retain its increased traffic it would be forced to cut rates again. Third, it is clear that there is no stopping point in this process of competitive rate cutting, so long as the rates suffice to cover *variable expenses*. Fourth, since fixed expenses must, however, be paid, the competing railways have to choose between (*a*) ultimate bankruptcy, and (*b*) the maintenance of rates at a level fixed by joint agreement. This second alternative means unity of action, or monopoly.

Where competition is thus self-destructive, monopoly is inevitable. The operation of this principle has been exemplified many times in the history of American railways. A new "competing" railway has been built, it has cut rates to attract a share of the traffic; a rate war has ensued; and the end has always been monopoly in the form of a combination or rate agreement. A similar situation is found in the case of local public service companies. Twenty or thirty years ago many of our cities adopted the mistaken policy of trying to force competition into this naturally monopolistic field. Very often it was found that the mere threat of competition was sufficient to bring about combination and monopoly.

It is believed by some that the advantages of large-scale production increase so long as the size of the business establishment increases. If this were true, it would give production on the largest possible scale advantages so great that monopoly would result in all parts of the industrial field. Some socialists believe that this movement is so strong that it must result in the final disappearance of competition and the triumph of monopoly everywhere. Certain other students of the problem think that it is only in certain industries that the economies of large-scale production are sufficient to lead to monopoly. But in such fields, they hold, "capitalistic monopolies" are sure to appear.

It should be remembered, however, that the very large business establishment has its disadvantages as well as its advantages; and it seems probable that beyond a certain point the disadvantages of

a further increase in size grow more rapidly than the advantages. In most industries the point of maximum efficiency is reached long before the point of monopoly is reached. It is difficult, and perhaps impossible, to find a single instance of successful monopoly in which one or more of the definite and specific sources of monopoly, mentioned in the foregoing classification, are not to be found. Our conclusion, then, may be stated as follows: There is a great and growing field of industry in which competition is not natural or permanently possible; there is another field within which monopoly does not exist, and in which it cannot long exist except in the form of social (or artificial) monopolies.

Monopoly Price High Price. — It is often said, even in judicial decisions, that the monopolist can charge any price he pleases. This is not the case. Price, even in the case of monopoly, is determined by economic forces. It is conceivable that there may be cases in which a monopoly price will exactly coincide with what a competitive price for the same product would be, although the probabilities would be against a frequent coincidence of this kind. There are also cases where monopoly price may be even lower than competitive price. If a monopolist should be able to effect great savings as compared with the expense of doing business under competition, it could happen, in theory, that the price which would yield the largest net returns would be a lower price than would be possible under competition.

Generally there are strong reasons for the position that monopoly price is high price. Monopoly is formed for the sake of gain. There are two different ways in which a monopoly may secure a higher rate of return than a competitive undertaking.

In the first place, as contrasted with a competitive undertaking, a monopoly in the same general field of producton is likely to be large. This, it is alleged, secures for it certain economies of production. There undoubtedly are some gains of this kind, but of what magnitude it is uncertain to say. When we compare a monopolistic business with one based on competitive principles on a scale large enough to secure the maximum of efficiency, what competition gains in initiative and alertness, stimulated by rivalry, has sometimes been too little considered.

The second and principal source of gain in monopoly is found in the ability to get a high price. In popular opinion monopoly prices have generally been held to be high prices, and, rightly or wrongly, monopoly has been identified with extortion. In this case popular opinion is supported by the results of historical research. Where a government has monopolized the production or sale of salt, its high price has usually been a real popular grievance. It has often been necessary to inflict severe penalties to prevent consumers from securing salt at lower prices from non-authorized sources. Of even greater significance are the results of different investigations that have been made of the price policies of industrial combinations in the United States. These investigations make it fairly clear that just so far as industrial combinations have been able to achieve and retain monopoly power there has been a general tendency for them to increase the margin between the price of the finished products and the cost of raw materials.[3]

Wherever commissions have been formed with power to regulate monopoly price, and these commissions have been comprised of independent and strong men, there has been a marked tendency to reduce monopoly price; because unregulated monopoly price has very often been found to be excessive and unjust. The opinions of the Interstate Commerce Commission and of the railway and public utility commissions of the various states afford many illustrations. In some important cases, these commissions have authorized higher prices, notably at times when the expenses of operating railways and public utilities were rapidly increasing. But in the great mass of their decisions they have been forced to lower prices, although these price reductions have not often been drastic.

Public Policy with Respect to Monopolies. — Natural monopolies cannot all be abolished. Experience, and the analysis of the special characteristic industries like railways and public utilities, should be conclusive. We *must* have monopoly in these cases, and the only question we are concerned with is, " What kind of monopolies shall we have? "

[3] See *Report of the U. S. Industrial Commission* (Government Printing Office, Washington, D. C.), Vol. I, pp. 39–57; J. W. Jenks, *The Trust Problem* (Doubleday, Page and Co., Garden City, N. Y., 1917), Chap. VIII; Eliot Jones, *The Trust Problem in the United States* (The Macmillan Co., New York, 1921), Chap. XI.

We must admit that unregulated monopolies in private hands have always been odious and are opposed to the principles of the laws of civilized nations. They are opposed to that endeavor to secure equality of opportunity which is fundamental in modern democracy and which manifests itself as a red thread running through American history. Even George Washington, generally looked upon as calm and self-contained, denounced monopolizers and wished they might be " hunted down as pests of society " and " hanged on a gallows five times higher than the one prepared for Haman."[4]

It is not so much high price that disturbs the modern man as it is inequality of opportunity; and this general sentiment has been very clearly and forcibly expressed in court decisions. In the field in which monopoly is natural and inevitable, therefore, we cannot permit unregulated special privilege, and to this end we must choose between public monopoly — government ownership — and public control of monopolies privately owned and operated. This opens up so vast a subject for discussion that we cannot enter into it here. It should be noted, however, that the considerations which must govern our choice differ for different types of natural monopolies. Municipal waterworks and the federal post office are in most respects efficiently and successfully managed. But in the case of many other natural monopolies the problems of management are more complex and difficult in many ways. Just now the method of public *control* rather than of public ownership is being given a thorough test. Our policy in the future will undoubtedly be determined in large measure by the results of that test.

Public control, to secure equality of opportunity, must so regulate monopolies and limit price that the gains will be no higher than those produced by equally wise investments and equally wise and prudent management in the field of competition. Sometimes it is stated that owners of railways and other monopolistic enterprises should have a competitive return upon all the money that they have invested. This would give them a position of special privilege, inasmuch as in the competitive field a great deal of money is lost.

[4] C. J. Bullock, *Essays on the Monetary History of the United States* (The Macmillan Co., New York, 1900), p. 67.

It is only wise investment and careful management in the field of competition that can secure returns equal or superior to the current rates of interest. Imprudently invested capital is lost in the field of competition; and when it is imprudently and unwisely invested in the field of monopoly, it cannot justly claim any return. But, on the other hand, we cannot admit that the prices monopolies are allowed to charge must always be so reduced that their gains yield no more than a competitive return on the actual value of their *physical plants*. Vested rights or interests have been created by society rather than by private individuals and faith must be kept. In the case of railways and telegraphs, for example, the federal and state governments for many years deliberately encouraged a wasteful policy of competition. It would not be right to place upon the holders of these securities all the burdens of a mistake of public policy in the past. What is needed is to declare the public policies of the future and to base future returns upon future actual investments. The rate of return, it is important to remember, must always cover the price at which capital and efficient management will be supplied. And in addition, there should remain the possibility of gaining some small further surplus by the exercise of unusual economy or of unusual initiative. Lacking such an incentive, the management of railways and public utilities might become a matter of unprogressive routine.

When we turn to the field of social monopolies we find that the problems of public control are simpler, but more diverse. These monopolies exist only by the approval or tolerance of society, and each particular one can be judged on its own merits. The problem of social monopolies, therefore, resolves itself into such problems as those of the economic effects of the patent system, and the most expedient means of raising public revenues. With respect to one class of social monopolies society has reached a very definite conclusion: There must be no needless extension of the field of monopoly through either public or private favoritism. The possibility of obtaining monopoly through special privilege is clearly inconsistent with the maintenance of equal opportunity in the industrial field.

The problem of the public control of monopoly is sometimes con-

fused with the " trust problem " — the problem of the public control of large industrial combinations. But the trust problem is only in part a problem of monopoly.

Anti-trust Laws. — Most states have statutes and some have constitutional provisions against " combinations in restraint of trade." Aimed primarily against large combinations, if strictly construed, they make illegal the whole mass of price agreements and trade restrictions, general and local, which are a much more common and characteristic feature of modern business than is generally supposed. State anti-trust statutes have accomplished but little, partly because they have been used only sporadically. The experience of the federal government has shown that if the prosecution of illegal combinations is to be conducted successfully, the details of their history must first be uncovered by thoroughgoing researches. The state governments have been poorly equipped for this kind of work.

The *Sherman Anti-trust Act* of 1890 is a federal statute, based upon the federal power to control interstate commerce. It declares illegal " every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several states, or with foreign nations." It also makes it a misdemeanor for any person to " monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several states, or with foreign nations." The government can proceed under the statute in either or both of two ways: (1) by bringing criminal prosecutions against persons entering into unlawful combinations; (2) by instituting proceedings to prevent and restrain violations of the law. A number of criminal prosecutions have been made, but most of these have been unsuccessful. It has been found difficult to get a jury to convict for an offense so abstract and general and, possibly, so common, as " restraint of trade." The more important results of the law have come from proceedings for the dissolution of unlawful combinations, and it is these only that we shall discuss.

Restraint of Trade under Common Law. — There has been much discussion of the precise meaning of the phrase " restraint of trade " as used in the Sherman Act. This phrase was taken from the com-

mon law, in which its usual application was to contracts by which a man agreed not to compete with certain others. When the restraint of trade involved in such agreements was merely incidental to some legitimate purpose, and necessary in order to carry out that purpose, the contracts have usually been deemed valid at common law. Thus, if two competitors form an ordinary partnership, or if one man sells his business to another, agreeing not to set up another business undertaking of the same kind (so as to protect the sale of the good-will of his former business), the restraint of competition involved in such contracts does not necessarily render them illegal. But if the *direct purpose* of a contract is restraint of trade it is invalid and unenforceable.

Labor Unions and Railway Combinations under the Sherman Act. — Although the Sherman Act was intended to be primarily a weapon against great industrial combinations, it has been held by the courts to apply also to labor unions and railway combinations. It has never been held, however, that labor unions are illegal under the act because of any alleged restraint of competition in the supply of *labor*. But certain activities of labor unions, particularly strikes and boycotts, have been condemned by the federal courts because such activities " interfere with the free flow of *commerce* from state to state." [5] This, it will be noted, is a very different thing from restraint of trade in the old common-law sense.

In 1897 the Supreme Court held that railway rate agreements were in violation of the Sherman Act.[6] An important point in these decisions was that neither the fact that railway rates agreements had been defended by the Interstate Commerce Commission nor the claim that the rates agreed upon were reasonable was allowed to stand as a defense. If the direct purpose of such agreements, said the court, is restraint of competition, they are illegal, whether reasonable or not. Railway rates agreements still exist, but no more of them have been attacked by the government. An epoch-making decision in 1904 ordered the dissolution of a New Jersey corporation,

[5] *United States* v. *Workingmen's Amalgamated Council*, 55 Fed. 605; the Railway Strike Cases, 64 Fed. 30, 749, and 67 Fed. 705; *Loewe* v. *Lawlor* (the Danbury Hatters' Case), 208 U. S. 274.

[6] *United States* v. *Trans-Missouri Freight Association*, 166 U. S. 290; *United States* v. *Joint Traffic Association*, 171 U. S. 505 (1898).

a holding company, organized to hold the stock of the Great Northern and Northern Pacific railways, two " parallel and [supposedly] competing " lines.[7] The importance of the decision was that for the first time the holding company, as an instrument for restraining competition, was shown to be vulnerable under federal law.

The application of the Sherman Act to railway combinations was in many ways unfortunate. Under the Interstate Commerce Act we have since 1887 regulated railway rates on the assumption that railways are natural monopolies. This has proved a much more effective method of dealing with unfair rates than has the attempt to force competition into the railway field. The good accomplished by the dissolution of railway combinations lies in the inroads these dissolutions have made into the use of the holding company device, with its undue concentration of financial power and its opportunities for the unfair treatment of minority stockholders. But this is only an incidental result of these decisions, and lies quite outside the general purpose of the Sherman Act. Many large holding companies, in both the railway and the manufacturing fields, are wholly invulnerable to prosecution as " combinations in restraint of trade."

Industrial Combinations under the Sherman Act. — For twenty years the Sherman Act was least effective in the very field to which it had been particularly designed to apply. A few industrial pools and price agreements were declared illegal by the federal courts, but in the only case involving a trust of the modern type that came before the Supreme Court the decision was for the defendant corporation.[8] For many years there were few prosecutions of industrial combinations. The government lacked properly equipped

[7] *United States* v. *Northern Securities Co.*, 193 U. S. 197. A similar decision, in 1912, involving interests of even greater magnitude, dissolved the merger of the Union Pacific and Southern Pacific railroads (226 U. S. 61). In the St. Louis Terminal Railroad case (224 U. S. 283), also decided in 1912, a corporation owned by fifteen railways and possessing a monopoly of railway terminal facilities in St. Louis, was not dissolved, but was merely directed so to reconstruct its organization that new companies might participate in its ownership and be given the advantages of its services on equal terms with railways then in control of it.

[8] *United States* v. *E. C. Knight Co.*, 156 U. S. The decision in this case, involving the American Sugar Refining Company, was to the effect that a monopoly in the *manufacture* of sugar could not be held to be a monopoly in interstate *commerce*.

bureaus of research and investigation, and the government officials were apparently apathetic. But both of these conditions were changed during President Roosevelt's administration. Finally, in 1910, the government was successful in suits brought for the dissolution of two of the greatest of industrial combinations, the Standard Oil Company [9] and the American Tobacco Company.[10]

Possibly the most important thing in these decisions was the emphasis the Supreme Court placed on certain business practices of these companies as evidence of their monopolistic intent. Each company had achieved a dominating position in its field, and the Standard Oil Company, at least, had a virtual monopoly. Helped at first by railway rebates, it had consistently pursued a policy of monopolization, either absorbing its competitors or driving them out of business. The evidence showed that it had acquired from 85 to 97 per cent of the business of transporting, manufacturing, and selling petroleum and its products, and such competition as there was seems to have existed by its sufferance. It did not have a *natural* monopoly, for only about one ninth of the total national production of crude oil came from its own wells. It had certain advantages over its competitors, especially in its control of pipe lines and in the low railway rates given to points at which its refineries were located. Yet it did not have a full measure of monopoly power. Active competition was always possible and was kept down only by the use of unfair competitive methods.

Unfair Competition. — This has come to play a very important part in the trust problem. It includes the use of such devices as (1) cutting prices below cost in a locality in which competition appears; (2) discriminating in favor of merchants who agree to refuse to handle or to discriminate against competitors' products; (3) the use of threats and other forms of intimidation; (4) the employment of spies to ascertain the details of competitors' business transactions; (5) the production of special brands of goods, sold at very low prices for the purpose of driving competitors' products out of the market; (6) the use of subsidiary companies as bogus independent concerns.

Not all of these methods are in themselves illegal. Some of them,

[9] 221 U. S. 1. [10] 221 U. S. 181.

including price-cutting on one or more parts of an establishment's output, are common in ordinary competitive trade. But when used by large industrial combinations such methods have come to be called " unfair," because of the purposes prompting their use and because of their effects. *There is an important difference between an effort to gain as much business as one can under competitive conditions and an effort to destroy competitive conditions.* And methods that may be harmless when used by an enterprise of ordinary size become dangerously destructive weapons in the hands of great industrial combinations. The combination is able to wage a destructive competitive warfare because it can stand a loss at one point or on one part of its output large enough to send its smaller competitor into bankruptcy. The use of unfair methods of competition by the Standard Oil Company and the American Tobacco Company was deemed by the Supreme Court weighty evidence of the purpose of those combinations to monopolize " trade and commerce " in their respective fields.

These decisions showed that the Sherman Act could be used as an efficient tool for the dissolution of great industrial combinations organized and conducted with *monopolistic intent.* It is clear that large combinations, controlling an important proportion of the output of a particular industry, and evidencing their monopolistic purposes by using aggressive and unfair methods of competition, are illegal under the Sherman Act. Beyond that point, however, the legal position of large combinations is not wholly certain. In 1914 the Circuit Court ordered the dissolution of the International Harvester Company.[11] That company controlled from 80 to 85 per cent of the business in its field. It was not charged by the government that it had used unfair methods or that it had tried in other ways to suppress competition; in short, it was admitted to be " a good trust." It was, however, a combination of five large companies which had previously been competitors. The company accepted the decision, so the case did not go to the Supreme Court. The question of the legality of a " peaceful combination " large enough to hold a dominating position in an industry remained, therefore, in doubt until the Spring of 1928 when this same company

[11] 214 Fed. Rep. 987.

became involved in a case before the Supreme Court. In its opinion in this case, the Court declared that "the law, however, does not make the mere size of a corporation, however impressive, or the existence of unexercised power on its part, an offense when unaccompanied by unlawful conduct in the exercise of its power."

A somewhat different issue was presented in the government's suit for the dissolution of the United States Steel Corporation. The Corporation unquestionably held a dominating position in the industry and from time to time had made informal arrangements with other producers with respect to the prices of steel products. But it did not of itself possess a monopoly. It controlled about half of the production of iron and steel, but its share of the total output was a little smaller and its competitors' shares a little larger than at the time of its organization in 1901. Taken by itself, then, it was not a monopoly, although it was powerful enough to induce other producers to coöperate with it in such a way that something which closely approached a condition of monopoly obtained in some branches of the steel industry. The United States Supreme Court, in 1920, decided that the Corporation itself was *not* an illegal combination in restraint of trade.[12]

It is too early to judge of the ultimate effects of the reorganizations brought about by the Sherman Act. There can be no doubt, however, that in a number of industries, including the oil and tobacco industries, there is a larger measure of normal competition than before the dissolutions.

Reorganizing of industrial combinations in such a way as to comply with the law often presents difficult problems. At first the courts merely directed that the securities owned by the holding company be distributed *pro rata* among its own stockholders. But where a majority of the stock of the holding company was closely held by a small group of men, and where the holding company held a substantial majority of the stock of its more important subsidiary companies, this method of dissolution was unlikely to result in the prompt restoration of competitive conditions. More recently dissolution plans have been more carefully worked out, so that no one group of stockholders is left in control of all the different constituent

[12] 251 U. S. 417.

parts of the former combination. In a number of cases industrial corporations have voluntarily reorganized themselves in accordance with plans approved by the government.

Later Anti-Trust Legislation. — In 1914 Congress enacted two new statutes, the Clayton Anti-trust Act and the Federal Trade Commission Act. The Clayton Act was designed to accomplish a number of different things. We can mention only its more important provisions:

1. It purports to legalize those activities of labor unions which had been declared illegal under the Sherman Act. This topic is discussed elsewhere in this volume.

2. It prohibits the acquisition by one corporation of stock in another corporation when the effect may be "to substantially lessen competition" between such corporations, or "to tend to create a monopoly." It also has provisions against "interlocking" directors and officers, which, like the provision against intercorporate stockholding, have a wholesome purpose and may accomplish some good in particular cases. But so far as their effect upon industrial combinations is concerned they add little to the Sherman Act, as now interpreted by the courts. It will be noted, however, that intercorporate stockholdings and intercorporate directorates are prohibited by the Clayton Act when they may tend to lessen competition between the particular corporations concerned, even though general competitive conditions may continue in the industry in which the corporations are engaged.

3. The Clayton Act prohibits certain trade practices, including (1) unjustifiable discrimination in the prices charged to different purchasers, (2) leases or sales of goods made with the understanding that the lessee or purchaser shall not use or deal in the goods of a competitor of the lessor or seller, as well as special discounts or rebates made upon such conditions. In cases under the Sherman Act the courts, as we have seen, had already counted the use of such practices among the evidences of an illegal purpose to monopolize an industry. And injunctions against their further use have been included in the decrees in some of these cases. It follows that in these particulars, also, the Clayton Act adds little to the Sherman Act.

The *Federal Trade Commission*, established in 1914, is composed of five members, appointed by the President. It succeeds the Bureau of Corporations, which was established in 1903 for the primary purpose of making special investigations of particular corporations and combinations and of the conditions existing in particular industries. The Federal Trade Commission not only has large powers of investigation, but it has the further power to require annual or special reports from interstate corporations in such form and relating to such matters as it may prescribe. At the request of the Attorney General it is to investigate any corporation alleged to be violating the anti-trust laws, and to make recommendations for the readjustment of its business. In suits brought under the anti-trust acts the Commission may be asked by the court to prepare an appropriate form of decree, which is, of course, subject to rejection or change by the court. The importance of this provision is in its bearing upon the outcome of dissolution proceedings under the Sherman Act. The drafting of a wise plan of reorganization for an offending combination is often an exceedingly difficult matter, requiring not only care and judgment, but also a large amount of technical information about the general condition of the industry affected. Furthermore, the Commission is authorized to make investigations of the manner in which decrees in suits under the antitrust acts are carried out.

The most important power of the Federal Trade Commission is undoubtedly that of issuing orders restraining the use of "unfair methods of competition in commerce." So far as such methods are used as part of a general attempt to monopolize an industry, the new statute adds nothing to the Sherman Act except a new, prompt, and efficient method of procedure. If this power is wisely used it should be possible in many cases to put a stop to aggressive monopolizing in its early stages, before much harm has been done. But the power committed to the Federal Trade Commission has even wider aspects. The Commission is empowered to build up and maintain higher standards for competitive business methods in general; to draw the lines beyond which one should not go in the attempt to divert trade from one's competitors. Up to June 30, 1928, the Commission had received over fifteen hundred and thirty differ-

ent complaints respecting the use of unfair methods of competition. Among the methods condemned by the Commission are such things as the misbranding of commodities, adulteration, bribing the agents of prospective customers, procuring the business secrets of competitors, false or misleading advertising, selling goods below cost in order to drive competitors out of business, and the like. Most of these methods are such as were already illegal under the law.[13] But through the Federal Trade Commission a business man may secure relief from unfair practices more quickly, more certainly, and more economically than if he waited for the slower processes of the courts. Furthermore, the work of the Federal Trade Commission in this field is leading to the adoption on the part of business men themselves of new and higher standards of competition. The Commission's most effective work, it is probable, has been accomplished by securing the voluntary coöperation of various trade organizations in getting rid of unfair trade practices.

The Webb-Pomerene Act. — This statute, enacted in 1918, marks a departure from the principles and purposes of the legislation we have been discussing. It permits in *export trade* combinations of a type that would be illegal in domestic trade. Such combinations may not "restrain" the trade of possible *American* competitors. And they may not use unfair methods of competition as against other American exporters. This modification and loosening of the anti-trust laws was recommended not only by various organizations of business men but also by the Federal Trade Commission. The law was put on the statute books at a time when American exporters were gaining new markets at the expense of their European competitors, who had virtually been shut out of them by the war. It was argued that a considerable part of the export business of other countries (and at the time Germany was most commonly mentioned) had been in the hands of large combinations, and that independent American exporters or exporting companies were at a disadvantage in the world's markets.

There is no evidence as yet that the American export trade has gained in any large way by reason of the Webb-Pomerene Act nor is

[13] For a completer list, see Annual Report of the Federal Trade Commission, 1928 (Government Printing Office. Washington, D. C., 1928), pp. 137–181.

likely that it will. Such small advantages as the permission to combine may give to exporters in a small number of particular industries are likely to be more than offset by the loss of a certain amount of good will in the world's markets and, possibly, by retaliatory action on the part of other countries.

In 1928, fifty-six export associations, embracing about a thousand producing plants and representing forty different industries distributed throughout the United States were operating under the Act.

Public Policy towards Industrial Combinations. — Our anti-trust laws express what is undoubtedly the dominant public sentiment in the United States with respect to large industrial combinations formed with the purpose of obtaining a monopoly. Our policy has been one of repression, of compulsory disintegration. Undoubtedly we have made many blunders in the ways in which we have formulated and enforced this policy. We have, in some cases, attempted to force competition into the field of the natural monopolies; we have often attributed too large a significance to the mere fact of combination; we have in particular attempted to cure by a sweeping prohibition of "restraint of trade" and "monopolizing" many evils that are, in their more important aspects, matters of corporation finance, rooted in the laxity of our statutes with respect to the organization and management of corporations.

But it does not follow that our general policy has been fundamentally mistaken. Monopoly has yet to prove itself more efficient than competition. And, moreover, it is not entirely a question of economic efficiency. There are differences between monopoly and competition in their effects upon the distribution of wealth, upon the equality of economic opportunity, and upon a host of economic and social relations; and in most of these particulars, it is generally believed, the advantage rests with competition. At any rate, we are proceeding along sound lines in endeavoring to raise the level of competitive methods and to eliminate any advantages which large combinations may have in their power of destructive competition. This will give a fairer field for experimentation with respect to the forms of business organization really best fitted for survival.

There are some who believe that our general policy has been

wholly wrong; that we should permit and even encourage the formation of large combinations; that we should place monopoly power in their hands, and that we should then subject their prices and their products to public control of the kind that now exists in the railway field. Now there is, in fact, no good reason why our notions of what constitutes a "public calling," or a "business affected with a public interest," properly subject to rigid public control, should not be extended so as to cover all natural monopolies. Recent legislation has shown a somewhat more advanced attitude in this field. The Transportation Act of 1920, for example, definitely encourages consolidation and places in the hands of the Interstate Commerce Commission the power to indorse pooling arrangements where not contrary to public policy. A recent amendment of the Clayton Act, moreover, modifies the clauses relating to interlocking directorates so that the Federal Reserve Board may now permit interlocking directorates in the banking field when not incompatible with the public interest. But to regulate prices in any industrial field, not naturally monopolistic, would be an exceedingly difficult and complex undertaking. It would also be difficult to define the terms on which new capital and new enterprise might come into the "regulated" industry. And there is, as yet, no proof that this proposed change in policy would, if put into effect, result in any large economic or social gains.

Federal Control of Corporations. — The unfortunate effects of the lack of uniform state requirements in such matters as purposes of incorporation, corporate powers, qualifications and responsibilities of promoters and directors, capitalization, and the like could in large measure be remedied by federal action. The Clayton Act touches only incidentally upon this field. Its provisions relating to incorporate stockholdings and interlocking directorates were framed with reference merely to the problem of the preservation of competitive conditions. What is needed is a federal statute dealing thoroughly and systematically with the promotion, organization, and management of corporations engaged in interstate commerce. Canal, railway, and bridge companies have in the past been chartered by the federal government, just as national banks are now. It would be legally possible and economically advisable to require

at least a *federal license* from all corporations engaging in interstate commerce. Moderate and just requirements as to publicity, capitalization, and other things might very well be imposed as the price of a federal license. Aside from the present lack of uniformity in state laws, the mere size of modern business corporations and the interstate scope of their operations make it difficult for any individual state or states to control them efficiently.

Industrial Combinations in Other Countries. — A movement toward combination in some form has manifested itself in practically every country which has large industries of the modern type. In England, however, the movement has made much less headway than in the United States. This may be attributed in part to the fact that England's " company laws " are not so lax as are the corporation laws of many of our states, in part, possibly, to the absence of a protective tariff, and in part to the highly specialized character of English industries. During the twenty or thirty years preceding the World War, however, a number of important combinations were formed in England, but only a few of these were successful. An English combination, it may be noted, secured an international monopoly of sewing cotton. England has no statute forbidding combinations, but the contracts by which " combinations in restraint of trade " are formed will not be enforced by the courts.

In Germany and in certain other countries of continental Europe the dominant form of combination has been the cartel. The cartel resembles a pool rather than the thoroughly centralized industrial combinations of the United States. The individual companies constituting its membership continue as independent producing establishments. It controls sales prices, output, and the distribution of orders and of profits.

The growth of cartels since the World War has been rapid and impressive. Industrial concerns, forced to coöperate by the military exigencies of the war, discovered, after peace was resumed, tremendous advantages in combination, not only in production but also in marketing. In contrast to the American policy toward combination, the State, in Europe, has either refrained from interference as in Great Britain, or, as in Germany, has actively given its support to the trusts. In Germany at present, such basic

industries as steel, power, chemicals, textiles, glass, and aluminum are under the control of cartels in which the Government itself often has a substantial interest. In France as in Germany, combination seems to have gone furthest in the chemical industry, iron and steel, textiles, aluminum and other metal industries.

Before the war, opinion in Germany with respect to the success of the cartel was greatly divided. On the one hand it was claimed that cartels eliminated many of the wastes of competition and that they were especially active and successful in securing sales in foreign markets. On the other hand it was said that they had discriminated against home consumers by selling abroad at lower prices than they charged at home, and that they even went so far as to sell at very different prices in different parts of Germany, utilizing, as far as possible, the principle of "charging what the traffic will bear." Since the war, tariff restrictions and threatened trade wars have created a favorable attitude towards international cartels of high grade designed to prevent excessive international competition; and such bodies as the International Chamber of Commerce and the Economic Conference of the League of Nations have approved their formation.

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CHAPTER XXVIII

TRANSPORT ECONOMICS

Transport Economics Defined. — Transport may be studied from various points of view. It presents its peculiar problems to the engineer, to the lawyer, to the financier, to the accountant, to the operating official, and finally to the economist. The economist studies the relations of transport to other industries and to the public welfare. Leaving to the engineer the building of bridges, to the accountant the recording of the business transactions, and to the general manager, the technique of operation, we turn our attention to such matters as the principles that govern the determination of rates and fares, although there are many other problems to be considered in transport economics, some of them peculiar to this field and some but special illustrations of principles underlying all industry. We make use of the technical knowledge of the engineer and of the other specialists that have been mentioned, and yet our point of view is distinct.

Scope of the Term Transport. — The term transport refers to carriage not only by steam railways, but also by water, inland or ocean, by city and interurban electric railways, pipe lines, vehicles on the highways, and by air. The term is also often linked with communication by post, telegraph, telephone, and wireless apparatus. From the following list (Table XXXI) of these agencies with their operating revenues for the calendar year 1926, it will be seen that the steam railways are still the backbone of our transport system. They will receive almost exclusive consideration in this chapter.

Importance of Transport. — The proportion of the population directly engaged in commercial transport and communication is small. According to the last census (1920) only 7.4 per cent of the gainful workers were employed in such activities. But this

TABLE XXXI

OPERATING REVENUES, 1926
(In millions of dollars)

Steam railways	6509 [a]
Electric railways	1000 [b]
Telephones (not including small companies)	908 [a]
Carriers by water (excluding vessels in foreign commerce)	750 [c]
Post-office (fiscal year)	660 [d]
Bus, common carriers	300 [e]
Trucks, contract or common carrier	(small)
Pipe lines	173 [a]
Telegraph and cable lines	166 [a]
Express companies	154 [a]
Pullman company	82 [a]
Air transport	7 [f]

[a] From Interstate Commerce Commission publications.
[b] Estimated for 1926 on basis of 1922 Census and per cents of increase or decrease each year given in *Aera* published by American Elec. Ry. Assoc. for a limited number of companies.
[c] Estimated. Census of water transport for 1926 does not cover revenues. Gross revenue of active fleet of the United States, including vessels in foreign commerce, was $563,736,367 in 1916.
[d] Annual Report of Postmaster General.
[e] Bus Facts, 1928, p. 7, published by Amer. Automobile Assoc. Includes revenues of bus lines operated by steam and electric railways.
[f] Represents 1928 mail income to contractors, all air mail routes, domestic or "foreign." Domestic Air News, April 15, 1929, p. 5, published by Department of Commerce.

did not include the persons engaged in producing new equipment, coal, and other materials used by the transport agencies and therefore understates the total proportion of gainful workers employed, directly and indirectly, in transport in the United States. Furthermore, such a percentage can give no indication of the place of transport as a feature of present-day economic life, just as the number of persons in banks can give no indication of the influence of modern banking systems. Scarcely anything can be produced without the participation of some transport agency. Modern industrial civilization would be impossible without an efficient system of commercial intercourse. The dependence is mutual, for present methods of transport would, it is clear, be uneconomical without a large traffic. The influence of cheap transport is especially important in the fact that it promotes an extensive division of labor by widening the market. It permits each region to devote itself to that line of production for which it is best adapted. By considering the sources of the things we utilize in a single day,

we can see how the present transport system helps to give us a variety and abundance of goods.[1] As a consequence of this fact the transport system becomes an outstanding factor in the complicated balancing of economic forces. A change of 20 cents a ton in the rate from one coal field as compared with another creates an economic and political disturbance. A change in the spread between the rates on livestock and on fresh meats affects the place where cattle can be most economically slaughtered. If the rate on flour should be made higher than that on wheat where it is now the same, the location of flour mills would tend to change. The determination of an economically sound and just system of freight rates is thus seen to be profoundly important.

Attempts are sometimes made to minimize the importance of the question of railway rates by comparing the transport charge on such an article as a pair of shoes with the cost of the shoes and showing that it is too small appreciably to affect the retail price. This overlooks the fact that freight charges enter into the cost of the materials and of the machinery required to produce the shoes. The freight charge constitutes a large percentage of the selling price at destination of such an article as coal. But it is safe to say that the total freight charges collected by steam roads constitute less than 10 per cent of the aggregate value at destination of the commodities they transport. The importance of aggregate freight charges is sometimes overemphasized by comparing the total annual freight revenue per family with the estimated income of the average family. Thus in the year ending Dec. 31, 1920, the freight revenue of railways in the United States was 4476 millions of dollars, and the number of families as reported by the census of 1920 was 24,351,676, making an average of $184 per family. It should be obvious that this figure cannot be compared with the amount which the average family spends for food, cloth-

[1] "Few people stop to think that in May the muskmelon which is served for breakfast could come from the Imperial Valley of California; in June, from the Imperial Valley or from Arizona; in July, from Arizona, Arkansas, Central California, Indiana, New Jersey, North Carolina, South Carolina, or Texas; in August, from a still greater number of sources; but in September, chiefly from Colorado and Maryland, with the October supply restricted to Colorado." L. C. Corbett in *Yearbook of Department of Agriculture*, 1927, p. 676.

ing, and other items of final consumption. If the comparison is made at all, it must be with the total annual *production* of the nation per family, for freight charges enter into the cost of such items as the factories, warships, and railway bridges constructed each year as well as of the articles produced for final consumption.

Nature of the Railway Industry. — Railways differ from manufacturing industries in that they produce place utility and not form utility, and in the further fact that it is customary for manufacturers to own the materials which they change in form while railways as a rule do not own the materials which they transport. In other words, railways sell services simply, while manufacturers sell articles in which they have embodied certain services. The freight charges paid by the shipper may be compared with the toll which the farmer used to pay for having his corn ground at the mill. The fact that railways, unlike manufacturers, do not buy and sell the commodities to which they add utility, makes the amount of their yearly income and outgo much smaller in comparison with the amount of investment in the plant than is the case with the manufacturers. Before 1916 it took railways about five years to "turn over" their book value. Owing to the large increase in rates and fares without a corresponding writing up of the investment accounts, the ratio of book value to operating revenues was about 3.8 to 1 in 1927. According to the reports of the Bureau of the Census, the value of the products of manufacturing establishments annually exceeds their reported "capital" or investment. The value of products less cost of materials purchased, that is, the value added by the manufacturing process, is more than one half of the "capital." These data suggest the conclusion that investment in plant and equipment is relatively more important in the railway industry than in manufacturing enterprises taken as a whole. The fact that railway services are rendered in connection with a large specialized investment and the further fact that the right of way cannot easily be duplicated explain much in our railway history, especially with respect to matters relating to competition, monopoly, and rate making.

Railway Competition. — The early roads were short, independent lines, largely for local traffic, or to serve as feeders to canals. The

first movement toward the efficiency of the present system was the welding together of separate links into through lines. The New York Central, for example, was formed in 1853 out of ten or eleven previously independent lines between Albany and Buffalo. The development of parallel through lines introduced an era of sharp competition. In the seventies the lines connecting Chicago and the Atlantic seaboard engaged in a series of rate wars. The experience of this decade showed clearly the temporary and unstable character of competition among parallel lines. The rule seemed to be that a railway war must be followed by a rate agreement of some sort, so that instead of the maintenance of a supposedly fair level of rates by the steady pressure of competition, we find there was an alternation of high and low rates.

The inevitable annihilation of direct competition in rates between railways is clearly portrayed in a congressional report in 1874, where the following prediction was made: "But when the natural tendencies of corporate power have wrought out their inevitable conclusions, the magnitude of our combinations will probably be in proportion to the extent of the field in which they operate." But so strongly was it felt at that time that competition was the life of trade, that the committee which made this report recommended that the government build a line of its own, merely to maintain competition with the private roads, for it was thought that the government could resist the temptation to enter into a combination.

The history of Belgium affords an instructive illustration of the effect of a mixed system of public and private ownership with competition in rates. Belgium began in 1837 with a carefully planned system of public railways. Ten years later it was decided to grant charters to private companies. A large number of private roads were organized, some with the purpose of competing with the state system. It was thought that competition between the state and private roads would be beneficial. The Massachusetts Railroad Commission, in its report of 1871, recommended a trial of this plan in Massachusetts. But in Belgium the private lines were soon merged into four systems, which competed so vigorously with the state roads that the government adopted the policy of pur-

chasing them. In 1926 the State railways were let for 75 years to a semi-private company. In Canada at the present time government operation and private operation exist side by side, but although there is keen rivalry in service, there is no cut-throat competition by rate reductions.

Pooling and Consolidation. — As a result of the intense struggle for business among the roads, there was a widespread resort to the practice of *pooling;* that is, an agreement among two or more carriers to divide the earnings or tonnage of a certain class of traffic between specified termini. This form of combination, however, was at least nominally abandoned after it was declared illegal by the Interstate Commerce Act of 1887, but organizations for the purpose of making rates continued to exist. In 1897 these were also declared illegal by the Supreme Court of the United States on the ground that they were in violation of the Sherman Anti-trust Act. The decision, however, did not clearly prohibit the enlargement of the various systems by the purchase and lease of other lines, or by securing indirect control by the purchase of the majority of their stock.

But in 1904 the Supreme Court again applied the Anti-trust Act of 1890 in a case against the Northern Securities Company, a corporation formed, not for the purpose of directly engaging in the railway business, but for the purpose of holding the capital stock of the Great Northern, Northern Pacific, and Burlington systems, two of which were competing systems. In 1912 it was decided that for the Union Pacific Railroad Company to hold indirectly 46 per cent of the stock of the Southern Pacific Company was illegal, although only a small percentage of the total traffic of these roads could be regarded as competitive. In 1922 the Supreme Court held that the common control of the Central Pacific and other Southern Pacific lines was in violation of the Anti-trust Act. The Northern Securities decision did not prevent the systems involved from continuing to be controlled by the same financial interests, but the Union Pacific case has apparently resulted in severing the financial control of the Union Pacific from that of the Southern Pacific.

The present organization of any one of our large systems, like

a geological record, reveals the nature of the changes that have been going on. The consolidated company controls a number of large lines, perhaps by stock ownership, and each one of these is made up of a number of subsidiary roads united as a result of purchase, partial stock ownership, or lease.[2] There are numerous illustrations of the control of one large operating company by one or more other operating companies. Thus the Northern Pacific and Great Northern Companies jointly control the Burlington. Again, several operating companies may be controlled by a holding company which does not itself operate any mileage. The Pennsylvania Railroad Company controls the Pennsylvania Company, a holding company, which in turn controls various operating roads in the Pennsylvania system. Again, two or more railways, apparently quite independent of each other in the matter of stock ownership, may nevertheless be dominated by the same financial interests. Interlocking directorates between railways are now prohibited except when authorized by the Interstate Commerce Commission.

A break in the policy of fostering competition appears in the legislation of 1920, whereby pooling of traffic or earnings is permitted if approved by the Interstate Commerce Commission, and the consolidation of carriers is declared lawful under certain conditions. Among these is that the consolidation must be in harmony with a plan to be formulated by the Commission. The Commission tentatively issued such a plan in 1921. This provided for grouping the steam roads of the country into nineteen systems. After taking extensive testimony regarding the tentative plan and after hearing oral arguments, during the years 1923–1924, the Commission in 1925 asked for legislation which would relieve it of the duty of adopting a complete plan and would declare any consolidation unlawful unless approved by the Commission. This recommendation, repeated in the annual reports of 1926 and 1927, was not acted upon, and, in 1929, the Commission produced a new plan, which, as it frankly admits, is

[2] The student should examine the corporate structure of one or more railway systems with the aid of data in the annual reports to stockholders or in Section C of the *Statistics of Railways in the United States*.

subject to "modification." Pending the adoption of this scheme or another, the Commission is authorizing many acquisitions of control of one carrier by another and denying applications for others. The most notable case in which the right to consolidate was denied is that in which the New York, Chicago & St. Louis Railway Company sought control of the Chesapeake & Ohio, Hocking Valley, Erie, and Père Marquette companies. The case was decided in 1926.[3]

In spite of the progress of consolidation, competition has not entirely disappeared. Even where there is no active cutting of rates by parallel lines, there may be rivalry in service. Shippers feel that this rivalry in service is an important advantage resulting from the private operation of railways, but it also has its wasteful aspects, as, for example, in retarding the unification and most efficient operation of terminal facilities. Again, alternative routes may lead to competition among railways that are not parallel. Thus the roads serving the north Atlantic ports compete in the carriage of grain with those extending to Galveston and New Orleans. The existence of competition between carriers in the matter of freight rates frequently comes to light in their applications to the Interstate Commerce Commission for permission to reduce specified rates. Such reductions are often proposed by one carrier to enable a salt mine, cement mill, or other enterprise to reach a market served by producers on other lines of railway. The proposed reductions are not always found to be in the public interest.

Competition with Other Transport Agencies. — Water competition has had an important influence on the adjustment of rail rates. Many people strongly believe that a renewed development of our inland waterways is economically justified as a means of securing cheaper carriage of freight. The transportation act of 1920 declared it to be the policy of Congress to promote, encourage, and develop water transport and to preserve in full vigor both rail and water transport. Through the Inland Waterways Corporation the government is attempting to demonstrate that boat and barge service on the rivers can be made to pay. An important feature of this experiment is the provision by law for

[3] 105 I. C. C. 425. See also 138 I. C. C. 517.

securing joint rates with railways. In recognition of the difference in service, the waterways corporation is permitted to make freight rates approximately 20 per cent below the corresponding rail rates. In recent years (1925–1927) its revenues have exceeded its expenses, but when interest on investment and taxes, to which a private corporation affording the same services would be subject, are considered, it is clear that the corporation is not yet on a self-supporting basis. The development of canal and river transport obviously should not be indiscriminately advocated on the vague ground that water transport is cheap. Each project must be judged on its own merits.

Private automobiles as well as busses and trucks have made heavy inroads on the passenger traffic of steam and electric railways. The number of passengers carried by steam railways was smaller in 1927 than in any year since 1906. The number of passenger miles in 1927, however, was slightly larger than in 1915. Short haul traffic has been chiefly affected. It may be questioned, incidentally, whether on the whole the development of automobile traffic has injured the steam railways financially. The latter have received large quantities of new freight traffic directly or indirectly connected with the production of automotive vehicles and the improvement of the highways. The annual expenditures on highways by Federal, State, and local agencies exceed one billion dollars annually.[4]

Air transport is not yet a serious competitor of rail transport, though the former is developing rapidly. In November 1929, Mr. Clarence M. Young, Assistant Secretary of Commerce,[5] reported that:

> The last year (1928–1929) has witnessed important developments in virtually every phase of civil aëronautics. Spectacular achievements have combined with day in and day out scheduled operations to bring aëronautics before the public to an unprecedented degree, which in turn has enabled the industry to advance with gratifying celerity. Air commerce, the dream of centuries, has now become an integral part of the nation's business.

[4] Report of Chief of Bureau of Public Roads in the Department of Agriculture (annual).

[5] By the Air Commerce Act of 1926, the Secretary of Commerce was given control of aircraft in the United States.

The report gave the following figures showing the increase of air traffic:

	1928	1929 (Estimated)
Pounds of mail carried	4,063,173	8,000,000
Passengers carried	49,000	85,000
Miles flown	10,673,450	16,000,000

The new air mail rates of 5 cents for the first ounce increased the amount of air mail carried from 210,957 pounds a month to 598,495 pounds a month during the year 1928–1929, said Mr. Young.

The growing aggregate of air passenger traffic, the mounting total of air express tonnage, the increasing volume of air mail poundage, all prove that the airplane has won a definite place in the general transportation scheme.

In the United States air transport has developed without government subsidies other than mail contracts. In various European countries direct subsidies are paid. In Germany, with the aid of government subsidies, it is said that rates for air travel are in summer about equal to those for first class rail fares and do not exceed in winter the rates for second class rail fares,[6] while the average fare reported by fourteen lines in the United States was 10.6 cents per passenger mile in 1927.[7]

Still other forms of competition with the steam railways exist. The pipe lines deliver oil which might go in tank cars. Interurban electric railways seek to increase their freight traffic. In the future the steam railways may lose much of their coal traffic if there should be great improvement in the production and distribution of electric power. The table on pages 596–597 shows the development of railways during the period 1890–1927.

Railway Development since 1890. — The accompanying tables, XXXII and XXXIII, afford material for a study of the growth of the investment, traffic, and earnings of steam roads in the United States since 1890. The ton-miles of freight increased in this period at a much more rapid rate than did the population. The increase in freight traffic was accompanied by economies in operation which are reflected in the increase in the trainload. The effect of the

[6] *German Commerce Yearbook*, 1928, p. 177.

[7] *Domestic Air News* (Department of Commerce), Serial No. 28.

war is evident in the columns relating to revenues and expenses. Relatively stable conditions obtained in the period 1910–1915 and again in the period 1924–1927, but the new stability is upon a higher plateau of prices and wages. The ton-mile revenue was slow to follow the upward trend of wholesale prices, but in 1927 the percentage of increase of the ton-mile revenue over that of 1913 was about the same as the percentage of increase of wholesale prices at the same time. From 1913 to 1927 aggregate revenues increased 95.7 per cent and aggregate expenses increased 108.6 per cent. Taxes more than trebled in the same period. The net railway operating income, that is to say, what is left of revenues after expenses, taxes, and equipment and joint facility rents have been deducted, increased by a much smaller percentage. The 1913 figure was exceeded in 1927 by 34.1 per cent. As 1913 [8] was a prewar peak, it might be better to compare that year with the postwar peak year 1926, in which case the percentage of increase would be 52.3. The net railway operating income is the sum which is comparable with the value or investment since it is available for interest, dividends, leased road rents, or surplus. The percentage relation of this income to book value is often used to test the adequacy of railway earnings, but obviously the absolute size of the rate of return so computed has no precise significance unless one accepts the book value as a satisfactory statement of value. It has not been generally so accepted, but in studying the trend of earnings over a period of years, it is instructive to compare the net railway operating income with book value.[9] (See Table XXXIII on page 598.)

But even for a comparative purpose such a percentage may be misleading. The book value is increased each year by the additional net investment at current prices while the old investment remains at the old price level. On the other hand, book value has grown more rapidly than the net capitalization. No account is taken of the growing depreciation reserve accumulated from charges to operating expenses. Also, no distinction is made between unproductive and imprudent investments on the one hand and income producing improvements on the other. The

[8] Fiscal year.

[9] Without deduction for depreciation and not including working capital.

TABLE XXXII

STATISTICS OF RAILWAY DEVELOPMENT IN THE UNITED STATES: 1890–1927 [10]

YEAR ENDED	POPULATION (MILLIONS)	TON-MILES OF FREIGHT (BILLIONS)	PASSENGER MILES (BILLIONS)	REVENUE PER TON-MILE (CENTS)	REVENUE PER PASSENGER MILE (CENTS)	WHOLESALE PRICES[a]	RAILWAY OPERATING REVENUES IN MILLIONS OF DOLLARS	RAILWAY OPERATING EXPENSES IN MILLIONS OF DOLLARS	REVENUE TONS PER FREIGHT TRAIN	BOOK VALUE IN BILLIONS OF DOLLARS[c]	MILES OF ROAD (THOUSANDS)
June 30 1890	62.9	76.2	11.8	.941	2.167	80.5	1052	692	175	8.134	164
1900	76.0	141.6	16.0	.729	2.003	80.5	1487	961	271	10.263	193
1910	92.0	255.0	32.3	.753	1.938	100.9	2812	1882	380	14.558	240
1911		253.8	33.2	.757	1.974	93.0	2853	1976	383	15.612	244
1912		264.1	33.1	.744	1.987	99.1	2906	2035	407	16.005	247
1913		301.7	34.7	.729	2.008	100.0	3193	2236	445	16.589	250
1914		288.6	35.4	.737	1.990	98.1	3128	2280	447	17.154	252
1915		277.1	32.5	.735	1.991	100.8	2956	2089	476	17.441	254
1916		343.5	34.3	.719	2.010	——	3473	2277	537	17.689	254

TABLE XXXII — (*Continued*)

STATISTICS OF RAILWAY DEVELOPMENT IN THE UNITED STATES: 1890–1927 [10]

YEAR ENDED	POPULATION (MILLIONS)	TON-MILES OF FREIGHT (BILLIONS)	PASSENGER MILES (BILLIONS)	REVENUE PER TON-MILE (CENTS)	REVENUE PER PASSENGER MILE (CENTS)	WHOLESALE PRICES [a]	RAILWAY OPERATING REVENUES IN MILLIONS OF DOLLARS	RAILWAY OPERATING EXPENSES IN MILLIONS OF DOLLARS	REVENUE TONS PER FREIGHT TRAIN	BOOK VALUE IN BILLIONS OF DOLLARS [c]	MILES OF ROAD (THOUSANDS)
Dec. 31											
1916		366.2	35.2	.719	2.051	126.8	3691	2426	552	17.843	254
1917		398.3	40.1	.728	2.097	177.2	4115	2906	588	18.574	254
1918		408.8	43.2	.862	2.421	194.3	4985	4072	621	18.985	254
1919		367.2	46.8	.987	2.548	206.4	5250	4499	623	19.300	253
1920	105.7	413.7	47.4	1.069	2.755	226.2	6310	5954	639	19.849	253
1921		309.5	37.7	1.294	3.093	146.9	5633	4669	567	20.329	251
1922		342.2	35.8	1.194	3.037	148.8	5674	4510	599	20.580	250
1923		416.3	38.3	1.132	3.026	153.7	6419	4999	632	21.373	250
1924		391.9	36.4	1.132	2.985	149.7	6045	4609	634	22.182	250
1925		417.4	36.2	1.114	2.944	158.7	6247	4633	663	22.737	249
1926	117.1 [b]	447.4	35.7	1.096	2.941	151.0	6509	4766	689	23.049	249
1927	118.6 [b]	432.0	33.8	1.095	2.901	147.0	6246	4663	690	23.535	249

[a] Calendar year figures with prices of 1913 taken as 100.

[b] Midyear estimate by Bureau of Census.

[c] Excludes investment of "proprietary" companies not rendering separate annual reports. In 1927 this amounted to $919,095,241. Also excludes investment of switching and terminal companies. Depreciation reserve not deducted.

[10] Sources: Publications of Bureau of Census, Bureau of Labor Statistics, and Interstate Commerce Commission. This table relates to steam railways of Classes I, II, and III excluding switching and terminal companies.

TABLE XXXIII

RATIO OF NET RAILWAY OPERATING INCOME TO BOOK VALUE IN THE UNITED STATES: 1890–1927

YEAR ENDED JUNE 30—	NET RAILWAY OPERATING INCOME	RATIO TO BOOK VALUE	YEAR ENDED DEC. 31—	NET RAILWAY OPERATING INCOME	RATIO TO BOOK VALUE[a]
	(Millions)	(Per Cent)		(Millions)	(Per Cent)
1890	$ 333.0	4.06	1916	$1058.5	5.93
1900	481.2	4.69	1917	950.6	5.12
1910	805.1	5.53	1918	646.2	3.40
1911	744.7	4.77	1919	454.1	2.35
1912	727.5	4.55	1920	12.1	0.06
1913	806.8	4.86	1921	601.1	2.96
1914	674.2	3.93	1922	769.4	3.74
1915	694.3	3.98	1923	974.9	4.56
1916	1002.9	5.67	1924	984.5	4.44
			1925	1136.7	5.00
			1926	1229.0	5.33
			1927	1077.8	4.58

[a] On basis used in preceding table.

return shown is that remaining after the deduction of all taxes including Federal income taxes.

The tremendous traffic of 1916 and 1917 brought a temporary prosperity to the railways, but the war-time inflation of wages and prices of materials caused the net railway operating income to fall almost to the vanishing point in 1920 in spite of drastic increases in rates and fares. In June, 1918, freight rates had been advanced 25 per cent and passenger fares were placed on a basis of 3 cents a mile. Effective August 26, 1920, freight rates were increased 40 per cent in the East, 35 per cent in the Middle West, and 25 per cent in the South and far West, and the basic passenger fare was made 3.6 cents a mile. Effective July 1, 1922, a reduction of about 10 per cent was made in the level of freight rates with no change in passenger fares, special reductions having been made in the preceding year in rates on agricultural products. Since 1922 no radical change has been made in the rate level (1929). An application of carriers in the western district for a horizontal freight rate increase generally averaging 5 per

cent was denied in 1926 (113 I. C. C. 3), although the existence of many rate inequalities was recognized.

It may be noted that the average revenue per ton-mile is not an accurate index of changes of rates, for this average is affected by changes in the composition of the traffic as well as by changes in the rates charged. The average ton-mile revenue is a weighted index number with weights changing at different periods. It is a single figure representing the result of applying an almost infinite variety of specific rates under varying traffic condition. If the proportion of low-grade freight increases or if the length of haul increases, there will be a fall in ton-mile revenue without any changes in rates. The figure may be used with some confidence to reflect broad differences in rate levels, especially if the comparison is made between years of fairly normal traffic conditions.

Since 1920 marked progress has been made in the economy of operation of steam railways in the United States. The table of significant operating averages given on page 600 shows that the gross ton-miles per train hour in freight service increased 59 per cent from 1920 to 1928. The car-miles per car-day also show an increase, but this is not the case with the average carload and the percentage of loaded movement. The decrease in coal consumption per 1000 gross ton-miles is marked.

The Level of Rates. — If, owing to the monopolistic nature of the railway business, the determination of rates can no longer be left to the automatic working of competitive forces, they must be consciously determined according to fundamental principles. Competition is supposed to do justice by limiting the aggregate earnings of an establishment approximately to the expenses of doing the business, and it seems most natural that we should apply the same standard in our railway rate making. There can be no doubt but that expense is a safe guide so far as it can be accurately determined. It needs but a slight analysis of railway expenditure, however, to reveal the difficulty of using expense as a criterion of a fair rate.

It is evident that under a régime of private ownership and operation the *general level of rates* must be high enough to allow a margin over operating expenses and taxes large enough to attract

TABLE XXXIV

COMPARISON OF SELECTED ITEMS OF FREIGHT SERVICE OPERATING AVERAGES, CLASS I STEAM RAILWAYS, UNITED STATES, 1920 TO 1928 [11]

TWELVE MONTHS ENDED WITH DECEMBER	NET TON-MILES PER MILE OF ROAD PER DAY	TRAINLOAD		GROSS TON-MILES PER TRAIN-HOUR (EX. LOCO'S)	NET TON-MILES PER CAR-DAY [a]	AVERAGE CARLOAD (TONS)	CAR-MILES PER CAR-DAY [a]	PER CENT LOADED OF TOTAL	CARS PER TRAIN (INC. CABOOSE)	LBS. OF COAL PER 1000 G. T. M. (INC. LOCO'S) [b]
		GROSS (EX. LOCO'S)	NET							
1920	5,280	1,443	708	14,877	498	29.3 [d]	25.1	67.9 [d]	36.6	[c]
1921	4,052	1,435	651	16,555	389	27.6	22.4	63.0	38.4	162
1922	4,392	1,464	676	16,188	424	26.9	23.5	67.2	38.4	163
1923	5,346	1,539	713	16,764	510	27.9	27.8	65.7	39.9	161
1924	5,004	1,588	715	18,257	471	27.0	26.8	65.1	41.7	149
1925	5,318	1,670	744	19,685	495	27.0	28.5	64.5	43.8	140
1926	5,683 [d]	1,736	772	20,692	531 [d]	27.4	30.4	63.7	45.2	137
1927	5,489	1,780	777	21,940	518	27.2	30.3	62.9	46.5	131
1928	5,468	1,838 [d]	793 [d]	23,652 [d]	526	26.7	31.3 [d]	62.9	48.1 [d]	127 [d]

[a] Includes unserviceable cars.
[b] Includes equivalent coal tonnage for fuel oil consumed.
[c] Data not available.
[d] Best record of the comparative period.

[11] From publications of the Interstate Commerce Commission.

the new capital required for extensions and improvements. In 1922 the Interstate Commerce Commission decided that a "net railway operating income" amounting to $5\frac{3}{4}$ per cent on the aggregate value of the properties operated would be fair. This, by the definition given above, is a tax-exempt income. Since 1922 interest rates have materially declined, but no change in the $5\frac{3}{4}$ per cent standard has been made (1929). For the purpose of a rate case in 1920, the Commission had taken as the value of steam roads $18,900,000,000 as of December 31, 1919, and it was indicated in *Reduced Rates*, 1922,[12] that there was no reason to disturb that tentative figure except to add subsequent net additions to property value.

In 1913 the Interstate Commerce Commission was directed by law to value the property of all common carriers subject to the act to regulate commerce. It was to report the original cost to date, the cost of reproduction new, the cost of reproduction less depreciation, and all other "values and elements of value if any." It was also to report separately the original cost and present value of all lands, rights of way, and terminals, together with the "cost of condemnation and damages or of purchase in excess of the original cost or present value." The last requirement was removed by an act approved June 7, 1922. In practice it has been found impossible to make complete reports of "original cost." The cost of reproduction, new, and less depreciation, has proved to be the heart of the valuation work. It was a formidable undertaking, and before its completion will have required over a decade of time and more than $130,000,000 as the combined cost to the government and to the railways. In 1928 the primary valuations had been practically completed and the Commission could turn its attention to bringing them down to a later date. For a discussion of the problems peculiar to this undertaking to state the "final value" of each common carrier, reference should be made especially to the cases of the *Texas Midland Railroad*, Valuation Docket No. 2, decided by the Commission on July 31, 1918, and of the *Kansas City Southern Railroad Company*, Valuation Docket No. 4, decided July 1, 1919.

[12] 68 I. C. C. Reports, 676.

One of these problems around which much controversy has centered is the extent to which depreciation shall be considered in reaching the value for rate-making purposes. The depreciation reported on road and equipment excluding land may be as much as 20 per cent of the cost of reproduction new. Some writers have taken the view that no depreciation should be considered in valuing a railway that has been maintained in good operating condition. Notwithstanding that at any given moment some of the rails are partly worn out and some of the ties are partly decayed, mere current replacements, it is urged, will keep the whole property in fully as good condition for service as it was in the beginning, and perhaps in better condition on account of the solidification of roadbed. The opposing view is that, as a practical matter of fact, as the combined result of wear, inadequacy, obsolescence, and accident, practically all physical property is sooner or later withdrawn from use, and, since the service life of various kinds of property can be ascertained, the service life can be used as a basis for computing annual charges to operating expenses, representing the property value used up during the year. New rules relating to depreciation accounting are being formulated by the Interstate Commerce Commission (see 118 I. C. C. 295, later re-opened for rehearing). The fundamental justification for attempting to fix the level of rates by allowing a fair return on a valuation representing the cost of the property is that such a procedure is likely to give confidence to investors that new dollars put into the railways will be protected. If capitalists have no such assurance, it will be impossible for privately owned railways properly to serve the public. The capitalized earnings of a company or the market value of its securities cannot be used for determining the level of the freight rates and passenger fares, because the rates and fares partly determine the earnings and value of the securities. Much controversy has arisen concerning the principles to be followed in determining the rate base. Shall the actual prudent investment or the cost of reproduction at present prices be used? In the O'Fallon recapture case (124 I. C. C. 3, 1927), a majority of the Interstate Commerce Commission used a compromise method of adding to a 1919 inventory (which was based on 1914 prices except as to lands) the

net increase in investment in the property after 1919, with depreciation included in the computation. The Supreme Court of the United States, in an opinion handed down on May 20, 1929, said:

> The question on which the Commission divided is this: When seeking to ascertain the value of railroad property for recapture purposes, must it give consideration to current, or reproduction, costs? The weight to be accorded thereto is not the matter before us. No doubt there are some, perhaps many, railroads, the ultimate value of which should be placed far below the sum necessary for reproduction. But Congress has directed that values shall be fixed upon a consideration of present costs along with all other pertinent facts; and this mandate must be obeyed.[13]

Relative Rates. — When the general level of rates has been determined we are confronted by the question of what should be charged for each particular shipment, and here we find the application of the principle of expense of still greater difficulty and uncertainty. In attempting to say what it costs to carry a ton of coal a mile, we find that a large part of the expenditure is incurred, not for one specific kind of commodity, but in common for many kinds. The roadbed, ties, and rails are maintained, not for coal cars alone, but for passenger trains as well. Even with the most careful bookkeeping it is possible to trace a direct causal connection between only a part of the expenses and specific portions of the traffic. It is possible to say that a certain traffic requires a certain amount of extra labor and fuel, and causes a certain amount of wear and tear, and clearly such traffic should normally pay enough to meet these expenses at least, if we wish to prevent waste. But what shall be done with such common expenditures as fall under the head of maintenance of way? The prevailing opinion has been that the cost of carrying a specific shipment cannot be determined with sufficient accuracy for any useful purpose because the element of "joint expense" is said to be a prominent characteristic of the production of railway services. In the production of wool and mutton, we have a clear case of "joint" expense because the production of one results also in the production of the other. Railway expenses common to freight and passenger service are of a different character because more

[13] St. Louis and O'Fallon Ry. Co. *v.* United States, October Term, 1928.

freight service can be produced without producing more passenger service.

In 1894 the National Association of Railroad Commissioners and the Interstate Commerce Commission indorsed the view that railways should not be required to separate the operating expenses of their freight and passenger services. Since that time there has been a great development among manufacturing enterprises of what is known as cost accounting, which is concerned with the apportionment of the total expenses of a factory among its several products. This has been found useful in matters connected with the fixing of prices and especially in determining the efficiency of the various departments of an enterprise. Statistics of this kind were also developed by some railway managements, but little use was made of them in determining rates. In 1907 the railway commission of Wisconsin gave an impetus to railway cost accounting by its opinion in the case of *Buel* v. *C. M. and St. P. Railway*, where the reasonableness of a passenger rate of three cents a mile had been questioned. A complete apportionment was made of the expenditures of this railway between its freight and passenger services. In 1914, the Interstate Commerce Commission reconsidered the whole matter, and after a public hearing decided that in the future railways must report their operating expenses separately for freight and passenger services according to bases to be prescribed by the commission.[14] From 1915 to 1919, the separation was not required for all of the expense accounts, but beginning with 1920 the rules for apportionment have been extended so that carriers now show the entire operating expenses divided as between freight and passenger services, including in the latter the mail, express, and other passenger train services. A complete cost accounting system was not introduced, but in 1928 new hearings on this subject were begun. A system of railway cost of service accounting was introduced in Germany in 1927.

Is there a sound theoretical basis for this development? This is a controverted point in economic theory and a full discussion cannot be given here. What has been said in Chapter XI regarding fixed and variable expenses and joint expenses of

[14] *In the Matter of the Separation of Operating Expenses* (30 I. C. C. Reports, 676).

production should be reviewed in this connection. Within certain limits an increase in the volume of railway traffic results in a lower average outgo per unit of product because certain items, such as maintenance of way and the interest on the investment in the roadway, do not grow as rapidly as the traffic, not to mention other economies. As railways can classify their traffic by commodities and points of origin and destination, it will pay to make low rates on traffic which would not otherwise be secured. But it is superficial to stop with the analysis at this point. As traffic increases the tracks and bridges are strengthened and additional tracks are added. *In the long run* the amount of the investment is markedly affected by the volume of traffic; that is, in the long run there is a *causal* connection between growth in volume of traffic and growth in maintenance and interest charges, and this is the theoretical basis for attempting to distribute transport and equipment expenses and at least a part of the maintenance and interest charges to specific services. As a matter of fact, in 1926 nearly 65 per cent of all of the operating expenses were reported as relating solely to freight service or to passenger service, and a considerable part of the remainder was apportioned to one service or the other on bases far from arbitrary. But any one who has attempted to separate the freight expenses between various classes of freight trains, between terminal service and line service, and between various commodities, and has made all of the other analyses involved in ascertaining the average cost of hauling a ton of any given commodity 100 miles in any given rate territory will come to the conclusion that exact results are not possible. At best only an approximate average cost can be ascertained. But a dim light is often better than none at all.

It is worth noting that the variety of railway *services* is not nearly so great as might be imagined from the multiplicity of rates in existence. Freight transport consists in moving a mass of material in freight cars, and from the cost standpoint it makes little difference whether we call the material sand, coal, or iron ore. The fact that commodities vary in bulk as compared with their weight is not an insuperable difficulty in comparing their costs of transport. Forty tons of coal can be loaded in one car

while forty tons of bird cages might require forty cars, but the train resistance caused by a car and contents in each case can be measured approximately.

While greater emphasis may in the future be laid on the cost principle, rates will doubtless continue to be based to a very large degree on the principle of "charging what the traffic will bear." Whether because of past commercial developments or for reasons of public policy, some traffic will be carried at rates less than those indicated by cost considerations, and this means that other traffic will have to bear rates higher than those indicated by considerations of cost. Some of the expenses of every railway, varying in some degree with its stage of development, may even in the long run be regarded as independent of the traffic, and such expenses should be distributed over such traffic as can best bear them. In assigning commodities to the various classes of a freight classification, the value of the commodity itself is given consideration as a measure of what the traffic can bear or of the value of the service, but it is clear that this is not an exact measure. The western classification committee formerly had a rule by which the number of cubic feet per hundred pounds was added to the value in dollars per 100 pounds and the sum compared with an arbitrary scale of units ranging from 6.06 cents for fourth class to 46.63 cents for double first class. The price revolution has rendered this scale obsolete, but it is also theoretically defective in that it makes the rate on valuable bulky articles too high.[15] In determining the rate burden, general considerations of public policy may also play an important rôle.

Hoch-Smith Resolution. — In the Hoch-Smith resolution approved on January 30, 1925, Congress declared it to be the proper policy in rate-making that the conditions which at any given time prevail in our several industries should be considered; and that the products of agriculture affected by depression should be carried at the lowest possible lawful rates compatible with the maintenance of adequate transport service. The Interstate Commerce Commission was directed to make a thorough investigation of the rate structure and to consider the general and comparative levels in

[15] For an attempt to combine cost and value statistically, see 35 I. C. C. 497, 653–4.

market value of the various classes and kinds of commodities. To carry out the mandate of the resolution the Commission instituted numerous investigations regarding the rate structures of important commodities, but it was found difficult to apply the principles laid down in the resolution. Many theoretical and practical problems arose. When does a depression exist? How is the lowest possible lawful rate to be determined? When a depression ceases to exist, shall the rates again be raised? Just how are the market values of the commodities to be considered? [16]

Distance. — The principle of making rates so far as possible in accordance with expense indicates that the charge should be varied to some extent with the distance a shipment is moved. The operating expenses assignable to a shipment may be divided into terminal expenses and line expenses, the former being independent of distance and the latter varying with the length of haul. If the line expense be taken as the same for each successive mile, the progression of the total rate for increasing lengths of haul would be according to the formula $t + rm$, in which t is the terminal charge, r the charge for each mile of line haul, and m the number of miles. In actual practice distance is to a considerable extent ignored. A number of mines, for example, may be grouped and accorded the same rate to a common market. Oranges from California are shipped on a blanket rate which is the same to any point east of a line passing through Denver, Colorado, and El Paso, Texas, regardless of distance. Import and export rates are lower than the domestic rate for the same land haul. In cases where carriers have established a progressive increase with distance, the charge for each additional ten miles is not necessarily the same. The distance scale may in practice conform, not to a straight line, but to some curve or broken line so that the charge per ton-mile " tapers " more rapidly than would be the case if the terminal charge were combined with a fixed charge per mile for the road haul. Such tapering might result from reducing long distance rates to a minimum for commercial reasons in order to widen the area of competition. At-

[16] For an interpretation of the resolution, see 122 I. C. C. 235, 264; 122 I. C. C. 609, 617; 129 I. C. C. 25, 32.

tempts have also been made to justify it on the ground that the cost per mile for the road haul diminishes with distance. Distance scales have been prescribed in numerous instances and to an increasing extent by the Interstate Commerce Commission as a means of straightening out chaotic rate conditions, but there is no accepted method of constructing such scales.[17] Their particular features are usually the result of an attempt to disturb preexisting commercial conditions as little as possible. The simplification of freight tariffs is one of the transport problems that is far from solved. A definite step in this direction was taken in 1919 by the formulation of uniform rules and description of traffic in a consolidated freight classification.

Government Regulations of Railways in the United States. — Railway corporations in the United States are almost all organized under the laws of the separate states. Formerly special laws were passed when a railway company was to be formed, but at the present time there are general laws specifying what conditions must be complied with in order that a number of persons may organize a railway corporation. The separate states have imposed a number of regulations and restrictions not only on the companies which they have chartered, but also on others doing business within their borders. These relate to the safety and the comfort of passengers and employees, train service, consolidations, pooling, ticket-scalping, discriminations between shippers and places, the issue of securities, and reasonableness of charges. Railway or public service commissions are found in all but a few states.

That a railway corporation is subject to government regulation in the interest of the public welfare has been clearly established by a long line of judicial decisions beginning with the leading "Granger" case of *Munn* v. *Illinois*.[18] But the authority of the state governments has been greatly limited by two provisions in the federal Constitution. Congress having been given control over interstate commerce, the states must

[17] See Southern Class Rate Case, 100 I. C. C. 513 and 109 I. C. C. 300, and Consolidated Southwestern Cases, 123 I. C. C. 203.

[18] 94 U. S. 113 (1876).

confine themselves in their regulations to commerce wholly within the state. And the Fourteenth Amendment declares that no state shall deprive any person of life, liberty, or property without due process of law or deny to any person within its jurisdiction the equal protection of the law. The courts have interpreted this provision to mean that neither a state legislature nor a commission created by it can fix rates even on intra-state traffic without a review by the courts. The courts have often declared rate legislation by states void on the ground that it confiscated the property of the stockholders.[19] The power of the state authorities to regulate intra-state rates has been further limited by the fact that the Interstate Commerce Commission may order carriers to remove any unreasonable advantage "as between persons or localities in intra-state commerce on the one hand, and interstate or foreign commerce on the other or any undue, unreasonable, or unjust discrimination against interstate or foreign commerce." The Supreme Court has held this to mean that the states may not merely be prevented from interfering with a particular rate adjustment prescribed by the Interstate Commerce Commission, but they may also not cut rates to such an extent as to reduce the income of the carriers below what the Commission has found to be a fair return on their aggregate property devoted to transport.[20]

Federal regulation of railways is based on the *Act to Regulate Commerce* of 1887, which has been repeatedly amended and is now called the Interstate Commerce Act. The original act was aimed primarily at the prevention of discrimination between persons and places and the prevention of monopoly. A commission of five members was created. Its power over rates was contested, and in 1896 the Supreme Court declared that the Act had not conferred rate-making power on the Commission. In 1906 the Commission was enlarged to seven members and given power to prescribe upon complaint maximum just and reasonable rates. It

[19] The Fifth Amendment imposes similar limitations upon the federal government.

[20] See *R. R. Commission of Wisconsin et al.* v. *C. B. & Q. R. R. Co.* (1922), 257 U. S. 563. It should be noted that there is coöperation between the state and Federal Commissions in hearing cases. Such coöperation is authorized by law. A more definite linking of state and Federal Commissions has been suggested in connection with the proposed regulation of motor bus and motor truck operation. See 140 I. C. C. 685, 746.

was also given authority to prescribe a uniform system of accounts and to require monthly and special as well as annual reports under oath. In 1910 there was added the power to suspend rates and to institute inquiries on the Commission's own initiative. The long-and-short-haul clause was made more effective. A Commerce Court was created, but this was abolished in 1913. In 1917 the membership of the Commission was increased to nine and authority to prescribe car-service rules was added. From January 1, 1918 to March 1, 1920, as more fully noted below, most of the railways were operated by the federal government as a war measure. During this period the Commission did not have the power to suspend rates initiated by the Director General of Railroads, but it did have the power to determine the justness and reasonableness of such rates. In numerous ways the Commission acted in an advisory capacity to the Director General. The *Transportation Act*, 1920, enlarged the Commission to eleven members, gave it power to control the issue of securities and to prescribe minimum as well as maximum rates. A rule to determine the general level of the rates and fares and a provision for recapturing a part of the income of the most prosperous carriers were among the most important features of the act. A summary of the Interstate Commerce Act as amended is given in a subsequent paragraph.

It will be seen from the brief review given above that the regulation of railways by the federal government has become more extensive and definite since 1887. The view is sometimes expressed that it has been so burdensome as to have retarded the development of the industry. This is difficult to prove or to disprove. Certainly government regulation has been beneficial in certain respects, such as in preventing rebates and destructive competition. When federal regulation began less than 40 per cent of the stock of the railways was paying any dividends. This percentage increased to 67.65 in the fiscal year 1911, fell to 56.92 in 1921, and rose to 69.12 in 1926. This indicates some improvement in financial standing. With the actual management of the roads, public commissions have had little to do. It is true that the charges to the public per unit of traffic were held down

to practically one level from 1900 to 1915, a period in which the dollar was steadily depreciating. That the railways could exist under these conditions is probably explained by the economies made possible by mechanical improvements and an increasing density of traffic. The public received the benefit of these economies, as the burden of proof was placed on the roads to show that they needed more revenue. Possibly the response by the way of rate increases to the upward price tendencies was delayed too long. The original act was designed to protect the public against railway abuses. The act of 1920 aims to protect both the interests of the public and of the railways, for it recognizes the necessity of allowing the latter an adequate income.

Suggestions are not wanting that regulation should be made simpler. Less government in business, is the cry. It is doubtless true that if the provisions of the law relating to valuation, recapture of excess earnings, consolidation, security control, and the Hoch-Smith resolution were repealed, millions could be saved in the immediate cost of regulation and the railways would continue to run, but it is doubtful whether the result would be satisfactory. Some say that valuation has been worth to the carriers all that it has cost them because it has given them a better knowledge of their properties and their expenditures, not to mention the assistance it gives them in defending their rate structure. Even the railways are not advocating a repeal of section 15*a* as a whole. A systematic consolidation, prevention of the reckless issuing of securities, and a reorganization of the rate structure are obviously important. It seems that the present tendency is towards more railway regulation rather than less. The annual cost is after all but a small fraction of the revenues of the properties regulated.[21]

Federal Control. — The war occasioned an unprecedented demand for transport facilities. Notwithstanding a certain amount of coöperative action by the railway executives through a "war board" organized April 11, 1917, the lack of adequate railway service was severely felt, especially in the East. This led to the taking over of the railways, among other transport systems, by

[21] See address by Hon. J. B. Eastman, The Public Service, *Proceedings*, National Association of Railroad and Public Utility Commissioners, 1926, pp. 35–48.

a presidential proclamation effective from and after December 28, 1917. For the purposes of accounting, federal control dates from January 1, 1918. This action was confirmed by Congress in the Federal Control Act, approved March 21, 1918.

The Director General of Railroads appointed by the President operated the roads through regional directors and federal managers. The corporations the property of which was taken over retained their separate financial organizations. The President was authorized to pay a rental for the use of the properties not to exceed the net railway operating income during the three years ended June 30, 1917. The revenues collected by the Director General were not sufficient to pay the rental in addition to the operating expenses and taxes [22] during the 26 months of federal control. This was not the result of inefficiency in operation, but was owing to the fact that charges to the public were not advanced as rapidly as the cost of labor and materials increased. Federal operation in this period should be looked upon as a war measure and not as an experiment in government ownership and operation. Certain economies were introduced as a result of unified management, but their effect was relatively small. Perhaps the most characteristic feature of federal management was the conciliatory labor policy under which the eight-hour day and time-and-a-half for overtime became the rule, rules and working conditions were standardized, and national agreements were entered into with five groups of employees. The net estimated cost to the government of the federal control of transport systems is $1,123,500,000.[23] This does not include the cost of the six months' guaranty period, about $530,000,000, nor the cost of reimbursing deficit roads, about $11,000,000.

Transportation Act, 1920. — The Transportation Act, 1920, also known as the Esch-Cummins Act, provided for the termination of federal control at 12.01 A.M., March 1, 1920. In view of the fact that the roads were not being operated on a paying basis at the close of federal control, a definite income above op-

[22] The war taxes only were paid by the companies, ordinary taxes by the Director General.

[23] Report of Director General of Railroads, 1924, p. 83.

erating expenses and taxes was guaranteed to the companies for the first six months of the restored private operation. This income, like the rental during federal control, was based on the average earnings for the three-year period ended June 30, 1917. The maximum sum to be included as maintenance expenses in computing the guaranty was left to be fixed by the Interstate Commerce Commission and was to be based so far as practicable on the average maintenance expenses of the three years ended June 30, 1917, with due consideration of changes in the cost of labor and materials between that period and the guaranty period. The guaranty ceased with the close of August, 1920.

The act also provided a machinery for settling labor disputes. Federal control closed with a threatening labor situation. A Labor Board was authorized to hear disputes which could not be settled voluntarily by adjustment boards recognized in the act, but the Board was given no power to enforce its awards. The carriers and employees made little use of the adjustment boards as contemplated by the act, because the managements were not willing to make nation-wide agreements and the men were not willing to negotiate with each road separately. Consequently an enormous mass of work devolved upon the Labor Board. In July, 1920, it radically increased wages, the increases being made retroactive to May 1. On July 1, 1921, general reductions in pay were made effective. These were accepted by the employees under protest but without a strike. Further extensive reductions were ordered as of July 1, 1922, against which the shop crafts conducted an unsuccessful strike, although a costly one to all concerned. One effect of the failure of the strike was the negotiation of separate agreements between certain individual railways and their employees.

The labor organizations lost confidence in the Board and some of the railways disregarded its decisions. Title III of the Transportation Act was repealed by the Railway Labor Act of 1926, and the Labor Board was replaced by a Board of Mediation which supervises a system of adjustment, mediation, and voluntary arbitration, with provision for an emergency board of investigation if arbitration fails. During the first two years of its life, many

disputes have been successfully settled by mediation or arbitration, but it is too early to judge of the ultimate success of the plan.

Interstate Commerce Act as Amended.[24] — Charges to the public for services by common carriers should be just and reasonable, and there should be no discrimination between persons or between places. No rebates are permitted. Free passes are prohibited, with, however, certain exceptions. In this same spirit, it is made unlawful for a railway company to transport commodities which it owns except for use in the conduct of the business. The relations between the carriers are also regulated. Divisions of rates must be just and reasonable and a carrier may not discriminate against its connecting lines. The Commission may require the joint use of terminals. It may establish car service rules and regulations and in emergencies direct the movement of cars and routing of traffic. Railways may not be constructed, extended, or abandoned without a certificate from the Commission. On the other hand, they may be required to provide adequate facilities for car service and to extend their lines under certain conditions. The long-and-short-haul provision prohibits greater charges for the same kind of service for a shorter than for a longer distance over the same line in the same direction unless this is permitted by the Commission, but the Commission is subject to certain limitations in granting this permission.

Although pooling and consolidation are now expressly permitted under certain conditions, railways may not own competing water carriers. Rate schedules must be kept open to the public and must be strictly observed. Thirty days' notice of changes in rates is required, but the Commission may allow changes in rates on less than thirty days' notice. It may also suspend rates for a period of seven months. It has the power to determine what shall be the maximum rate or the minimum rate, or both; that is, the exact rate. Any person may make a complaint regarding rates or practices and the Commission may institute inquiries on its own motion.

[24] The Interstate Commerce Act in full with amendments to date, together with related acts, is published from time to time by the Interstate Commerce Commission.

In the exercise of its power to prescribe just and reas nable rates the Commission is directed to adjust such rates so that the carriers as a whole in each rate territory may earn a net railway operating income, as nearly as may be, to a fair return on the aggregate value of the property in each territory. This does not mean that each carrier is guaranteed a definite income. It is the average rate of return of all the carriers in each territory that is to be kept up to a certain level. If an individual road earns less, the government does not make up the difference. On the other hand, any road earning more than 6 per cent on its property in any year must turn over half of the excess to the government. This leaves some incentive for efficient management. The part collected by the government is placed in a railway contingent fund, from which loans may be made to carriers. The fund may also be used to purchase equipment and facilities for lease to carriers.[25] In determining just divisions of rates between carriers, the Commission must give consideration, among other things, to the amount of revenue each carrier requires to pay a fair return on property and the importance to the public of the transportation service of each carrier.[26] Adjustment of rates to produce an adequate return is conditioned on honest, efficient, and economical management and reasonable expenditure for maintenance. This gives importance to the uniform accounting and the statistical reports which the Commission may require.

The Valuation Act, referred to above, has been incorporated as a section of the Interstate Commerce Act. Value of the property has become much more important in rate regulation than the amount of securities outstanding. But the public has an interest in the prevention of abuses in the issue of securities. It is interested in maintaining the credit of the carriers. The act provides that it is unlawful for a common carrier to issue any stocks,

[25] This part of the law had not in 1928 become fully effective because of litigation. It was decided in 1924 that the recapture of excess earnings is constitutional (Dayton-Goose Creek Case, 263 U. S. 456). But in order to determine whether a road has earned in excess of 6 per cent on its property value, one must know what that value is precisely. How to determine this value is a question involved in the O'Fallon Recapture Case, to which reference has been made on a previous page.

[26] See New England Divisions Case, 261 U. S. 184.

bonds, or other form of indebtedness without authorization of the Commission.

A general survey of the work of the Interstate Commerce Commission each year is given in its *Annual Report* to Congress. Its decisions, published as the *Interstate Commerce Commission Reports*, contain a vast amount of descriptive material concerning the rate structures and the practices of railways in the United States. Information concerning the mileage, capitalization, revenues, expenses, and traffic of the railways will be found in its annual volume called *Statistics of Railways in the United States* and in its monthly and quarterly statistical publications, which include summaries of wages and employment, operating performance, commodities carried, and accidents.

Forms of Railway Control. — The difficulty of regulating railways with sufficient stringency to prevent abuses, and at the same time according them sufficient freedom in management to develop the properties in the most efficient manner, suggests that possibly the present system of private operation and public regulation may be greatly changed in the future. There is at the present time no important demand for direct operation by a department of the government. The political consequences of such a form of operation may well be feared. It would be unfortunate to have sectional disputes as to rates thrown into politics. Railway extensions might be wastefully undertaken because of political influence. The energy and progressiveness of the management might be impaired by the necessity of proceeding at every step in accordance with some appropriation act or civil service requirement. Employees might obtain undue concessions in working conditions through political influence.

But government operation and the present system of private operation as we know it in the United States are by no means the only alternatives. It is conceivable that, after a systematic consolidation had been attained, the corporations operating the large systems might be given a semi-public character. In Germany today the railways are publicly owned but operated by a corporation the common stock of which is retained by the government. The corporation which operates the publicly owned railways of

Belgium is dominated by the government. In these two countries the need for post-war financial adjustments dictated the form of railway organization. In Canada government ownership was undertaken, not as the result of reasoned choice, but because the break-down of private credit left no satisfactory alternative. However, it is particularly difficult to foresee either the desirable or the probable developments of the future, whether away from or towards government ownership or operation.[27]

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CHAPTER XXIX

AGRICULTURAL PROBLEMS

Since the close of the World War the changes in American agriculture have been so striking and the necessity of readjustments so great that it might seriously be asked whether we are not in the beginnings of an agricultural revolution comparable, within a more restricted sphere, to the industrial revolution which transformed English industry between 1775 and 1850. Recent agricultural history is marked by many of those uncertainties and conflicting tendencies which characterize periods of radical transition. Conditions which have existed for generations seem to be disappearing. Movements which have gone on for decades appear to have been checked or reversed. Problems which long occupied the center of the stage have been thrust into the background. Whether all this is permanent or temporary, whether we are at an historic parting of the ways or not, time alone will tell. But the following discussion of agriculture must be read in the light of the present situation which is characterized at almost every point by change, contradiction, and serious problems.

The Agricultural Industry. — The 6,371,640 farms operated in the United States in 1925 covered 924,319,352 acres of land, or little less than one half the total land area of the country. This farm property was valued in 1925 at 57 billion dollars, probably more than 15 per cent of the total national wealth. The products of these farms are valued in an average year at over 10 billion dollars and from 1909 to 1919 still constituted about one sixth of the national income. About one fifth of the working population now finds employment on our farms.

In 1919–1920, when the capital invested in manufactures amounted to 44 billion dollars, in mines and quarries to 7 billions, and in railways to 20 billions, the value of farm property had

reached the sum of 78 billion dollars. At that time it was possible to say that agriculture was still the most important industry of the United States in spite of the much discussed decline in rural population and the movement to the cities. But that claim can no longer be fairly made. Farm values have been drastically deflated since 1920; the farm population declined by some 3,000,000 people between 1920 and 1927; and "from 1919 to 1924," in the words of the Secretary of Agriculture, "there was a decrease of 13 million acres in crop land in the United States — the first decrease ever shown by census statistics in the agricultural area of the nation." What is even more significant — the country as a whole since 1923 has enjoyed a period of substantial if spotty prosperity, while agriculture has lingered in the state of depression in which it was plunged, along with most other industries, in the later months of 1920. The country has been prosperous while the farmer has been in distress. This could hardly be true if agriculture were still the country's most important industry.

The Trend of the Size of Farms. — Agriculture is a strikingly decentralized business. With comparatively few exceptions, each farm is a separate business unit managed by a single entrepreneur. In the past, farming has shown little apparent tendency to become a large scale industry. Until about the end of the nineteenth century, we continued to carve out of the public domain thousands of new farms every year; in fact for many decades the increase in the number of farms was more rapid than the increase in population, and more rapid even than the increase in rural population. In recent decades, farming has grown with especial rapidity in the Far West, where farms are large. This has tended to increase the average size of farms for the whole United States. At the same time, the development of new and smaller irrigated farms, the breaking up of the grazing ranches of the West, and the gradual change from the old plantation system of the South to a system of small tenant farmers, have been counteracting movements tending to reduce the size of the average farm. In all sections of the United States the changes in the size of farms indicate that the farm is being adjusted to variations in economic conditions and in the methods followed in agriculture. Farm machinery, especially

the tractor, has made it possible for many classes of farmers to operate more and more land profitably and they have enlarged their farms to take advantage of this fact. This process has been hastened in very recent years by the fall of land values and the distressingly large number of mortgage foreclosures.

The size of a farm can also be measured by the value of the land and equipment. To say that farming is a small-scale industry does not imply that the farm represents a small amount of capital. In 1925 the average farm, fully equipped, was valued at $8949 and the average Iowa farm was worth about $26,000. In no state was the average money value less than $2100. From 1860 to 1900 there was no considerable increase in the value of the average farm, but between 1900 and 1910 the value doubled, and it doubled again between 1910 and 1920. The World War and its after-effects — as seen especially in the rise of prices — were largely responsible for the doubling in the last-mentioned decade. This increase in value was due very largely to the increase in the price of land itself, although the value of the equipment used also increased enormously during the decade preceding 1920. The increase in the value of the farm was therefore not so much due to the increase in acres or the number of machines, stock, or other equipment, as to the increase in the money value of such items. The amount of capital represented in the farm unit, while it has increased strikingly in recent years, is on the average far less than in most kinds of manufacturing and commercial enterprise. But it must be remembered that broad *averages* for the country cover and hide exceedingly diverse movements. Wheat farming may become highly mechanized while truck and poultry farming remain essentially small-scale industries. This question is briefly discussed below in connection with power farming and productivity.

The Proper Size of Farms. — The proper size of farms is a subject upon which there is a great deal of discussion. Shall we encourage holdings consisting of whatever combination of labor, capital goods, and land yields the greatest net return to the operator? If so, we shall frequently have a single owner or manager operating several thousand acres with hired labor, or perhaps with tenants. Such an organization often brings the highest possible production *per farmer*

and even *per man employed;* but this depends upon the type of agriculture. Dairying is not so suitable for farming on a large scale as grain farming. In many cases the large farm may even yield a higher product *per acre* than the small farm, as was the case in eastern Europe before the World War.

Another ideal is a numerous rural population living on farms just large enough to maintain the farm family on a high standard of living, or to furnish profitable employment to all members of the farm family. Nations which consciously strive for a large rural population keep this ideal in view, but when rural population exceeds a proper density the surplus which can go to feed a non-agricultural population is reduced, and if the number of people who live from the land becomes too great, there may be actual danger of starvation in bad seasons.

The labor element is prominent in farm operation, much of it being performed by the entrepreneur himself. Hence, a stimulus is given the individual farmer, who is his own laborer, by the sense of proprietorship. "Factory methods," where large numbers of laborers are employed working under supervision, have not in the past been generally successful when applied to agriculture. For this reason, the large agricultural holding has not become general; the "family farm" is common all over the world. Here again, however, there are many signs of a possible break with the past. It is possible that, within the next twenty-five years, grain and other important types of farming may become in this country a highly mechanized and capitalistic industry, operated on a large scale, under methods closely similar to those which have proved successful in commerce and manufactures. During the war, when wheat was at a premium, the Campbell Farming Corporation was organized. The experiment showed what trained engineers could do, by using mechanical methods, with some 100,000 acres of dry-farming land. In recent years the active competition of Australia and Argentina has forced the wheat farmer in this country to reduce his production costs, by means of greater mechanization, to a point where he can survive in this competition.[1]

[1] President's Conference on Unemployment. Report of the Committee on *Recent Economic Changes* (The McGraw-Hill Book Co., New York, 1929), Vol. II, p. 561.

In Europe, the movement towards large-scale, mechanized farming is far less marked than in this country. The efforts of European nations have been directed in the main towards decreasing the number of large holdings. The problem is psychological as well as economic. The people fear large landed estates, and even in England, where comparatively large farming has had the greatest opportunity and the most favorable environment, the consensus of opinion seems to favor the encouragement of small holdings. Acts passed in 1892 and in 1907 make it possible for county councils to purchase land and sell it or let it in small tracts. Denmark has made the ownership of small holdings possible through land credit and coöperative organizations. All through eastern Europe and Russia the large estates were very generally broken up after the World War.

Tenancy and Ownership. — In America the opinion is frequently expressed that farms should be operated by owners and not by tenants. It is held to be deplorable that by 1880 over 25 per cent of our farms were operated by tenants, and that by 1925 the per cent so operated had increased to 38.6. But some authorities hold that when land becomes very valuable tenancy is preferable to ownership. They argue that too often the farmer who insists on holding title to land must go deeply into debt, understock his farm, or be satisfied with a small acreage.

To underequip a farm means poor agriculture. If the farm is too small, the farmer is not working to his best capacity. A heavy debt hangs like a mill stone around the neck of the farmer unless farm products are increasing in price, or unless the farmer has unusual capacity. In the post-war period, when farms purchased at the peak of agricultural prices had to be paid for with farm products sold at lower prices, many farmers underwent a severe, and often a losing, struggle. In tenant farming, on the other hand, the speculative risks are borne by the land-owner. It is desirable for the tenant, as a man of small means, to avoid such speculative risks. Tenancy also allows the man with little capital to expand his means on equipping his land so as to operate it with the highest efficiency. Rents are generally below the current rate of interest; in fact, land yields a lower net return, year by year, than almost

any other form of property. In some parts of the world this is due to the social prestige of landownership; in this country mainly to the fact that in the past the increase in land values has been expected to compensate for the low annual return. Working at his full capacity, and paying less than the usual rate of interest for the use of his land, the tenant has often been able to accumulate a surplus very rapidly, a surplus which in many cases he uses to purchase a farm. Some farmers, however, prefer to remain tenants even when they have accumulated enough money to buy several farms. And finally, it must be noted that the problem of tenancy is not at all like the labor problem in the factory industries. The tenant is not a wage earner. He may be as independent as the manufacturer, who may hire the land, buildings, and even the machinery with which he works.

In spite of the advantages of tenant farming the general verdict is in favor of owner-operation. The problem cannot be solved on economic grounds alone. Ownership not only spurs the zeal of the farmer, encourages thrift and saving, dignifies his occupation, and inculcates a love of the soil which nothing else inspires in so great a degree, but it gives the farmer a stake in the political life of the country, steadies him, and thus improves his citizenship. In the United States tenant farming is usually accompanied by an unstable community; people move frequently; churches, schools, and other institutions are neglected; and very often the agriculture is of an exploitative nature. In England, where tenancy has been a growth of a century or more, customs and laws have developed which have overcome, to a large extent, the instability found in America.

Land Ownership and Tenancy in the United States. — In certain Southern States, where about two thirds of the farms are let to tenants, about 27 per cent of the farms worked by tenants changed from one operator to another during the year 1922.[2] It may be estimated that there are few states in the South where the percentage of tenancy falls below 50. This high percentage and the constant shifting of tenants is probably accounted for by the

[2] National Industrial Conference Board and the Chamber of Commerce of the United States, *Conditions of Agriculture in the United States* (New York, 1927), p. 64.

inefficiency of the negro and poor white farmers. In the corn belt, where the price of land is high and the type of agriculture suited to large-scale farming, the percentage of tenancy ranges from 15 per cent to 50 per cent. In the Middle Atlantic, Mountain and Pacific States it is below 25 per cent, except for Colorado, but generally above 15 per cent. In the New England States, the proportion of farms worked by tenants is below 13 per cent.

Tenancy has a place in the land system of the United States. For some farmers it is a temporary stage; for others it is a permanent system of tenure. It is a temporary stage for those who are capable of rising to landownership but who have to begin their climb near the bottom. Studies and surveys show that a great many farmers start their careers as laborers, either on the home farm, as hired men on other farms, or as non-agricultural laborers. When they have accumulated a little capital they become tenants and finally buy a farm, usually paying for it in part and mortgaging the rest. Some of them skip one or more of the rungs of this "agricultural ladder." Where this process of rising to ownership proceeds in a normal way, at any one time a considerable proportion of farmers will be tenants.

Landed property is transferred from one generation to another. In some cases this is by inheritance, marriage, or gift; but in the majority of instances the second generation obtains possession of its farms by purchase. This means that the farm must not only provide a living for the farmer, and pay the interest on the purchase-money debt, but must also produce an additional income to pay off all or part of the principal of the debt. The retiring farmer prefers to keep an active interest in the farm for a considerable number of years and gradually "retreats" as he grows older. To let his farm to a tenant suits his needs exactly; he still owns the property, takes an interest in its upkeep, supervises and assists the tenant, and shares in the greater productivity that results from such dual partnership. The tenant is also benefited by this arrangement, especially when he is a relation or connection of his landlord, as tenants frequently are. In this way the transfer is made gradually and at the lowest cost to the young farmer.

Some farmers fail as independent operators. Men incapable of

self-direction are, of course, found in all occupations, but in agriculture they do best as hired men or as tenants under the direction of the landlord. Many of these men leave farming to go into other occupations, while others remain as tenants, constituting the largest part of the permanent tenant class.

For these various reasons, then, and because some farmers voluntarily prefer to remain tenants, we shall always have a certain amount of tenancy. Some tenancy is attributed to undesirable factors, such as inefficiency or unfavorable natural and economic environment. Other types of tenancy are not undesirable.

Farm Indebtedness and Increase of Tenancy. — The recent decline of land values, which has been especially significant in the Middle West, has had and will have a marked effect on farm ownership. The land boom in the United States broke in 1920, and after this year a number of settlements had to be effected by ruined landowners.

> Much of the land had been transferred under contracts, or with second and third mortgages on which first payments were not due for anywhere up to five years. As settlement under these contracts or mortgages came due, there was a succession of defaults, which strung along over several years. Land went back to the seller or to the mortgagee, and in this way banks, trust companies, insurance companies, and other investors found themselves the involuntary holders of land on which payments were in arrears.[3]

The transfer of ownership was made all the more inevitable because the price of agricultural products continued to be relatively low. A wave of foreclosures set in. Banks which were prolonging extensions and helping nominal owners or mortgagors to retain their titles to the land were often faced with the alternative of going into liquidation or foreclosing on the landed properties. This forced selling of lands drove prices down still lower; while the involuntary owners remained uncertain what to do with the land that had come into their possession. Most of the large insurance companies in the Middle West now own large amounts of farm lands, while the Federal Farm Loan system has become deeply

[3] President's Conference on Unemployment (Herbert Hoover, Chairman). Report of the Committee on *Recent Economic Changes* (The McGraw-Hill Book Co., New York, 1929), p. 585.

involved in the land situation, as is shown in the following Table (XXXV): [4]

TABLE XXXV

Banks	Jan. 1, 1926	Jan. 1, 1927	Jan. 1, 1928
Federal Land Banks:			
Farms owned outright	1598	2763	4086
Sheriffs' certificates	1160	1260	1088
Joint Stock Land Banks:			
Farms owned outright	211	440	533
Sheriffs' certificates	176	222	357
Total number of farms owned outright and subject to redemption	3145	4685	6064

The transfer of ownership has led, in some cases, to the more prosperous farmers buying up tracts of land at low prices. More often, however, the foreclosed properties have been let to tenant farmers. Thus the proportion of tenant farmers has been increased.

As a new country grows older, an increase of tenancy must be expected. Also, when more capital is required to operate a farm, an increase in mortgage indebtedness is inevitable. In a new country the farmers are comparatively young men. The farmer, becoming older, gradually retreats from the farm and another generation takes over the active management. The tenant is frequently the prospective owner, being a son, a son-in-law, or some other relative. At times, however, the prospective owner will buy the farm and give a mortgage for it. Apart from this transfer of the farm from generation to generation, the prosperous farmer, like any sensible business man, will often find it advantageous to borrow money, if by so doing he can earn a larger return than the interest he has to pay.

It is one thing to own a farm that means perhaps $5000, and it is another thing to own a farm when it means $25,000. When a farm means a large accumulation of wealth, only the more capable will be able to acquire ownership (except by inheritance). It is desir-

[4] The data on Farm Indebtedness and Agricultural Credit are taken from Mr. E. G. Nourse's Study on Agriculture, in *Recent Economic Changes*, Vol. II, Chap. VIII.

able that the more capable rather than the less capable should become farm owners. Most farm mortgages are created for the purpose of buying the land. The farm mortgage, therefore, is not necessarily a bad thing. Very often it takes the place of tenancy. Some of the states low in the percentage of tenancy have a large number of farms mortgaged. While the per cent of mortgaged farms increased from 28 in 1890 to 36 in 1925, the ratio of debt to farm value [illegible]out 35 per cent in 1890, but fell to 27 per cent in 1910, going [illegible]o 41.9 per cent by 1925. During recent years, the rate of far[illegible] bankruptcy in the United States has increased under the burden of mortgage indebtedness. From 1905 to 1914, farm bankruptcies averaged 0.14 per thousand farms, while in 1926 the average per thousand farms was 1.22.[5]

Agricultural Credit. — Farmers in the states remote from the great accumulations of wealth and capital have to pay relatively high rates of interest and high commissions for their money. Banks and other money lenders often are not in a position to supply credit of the sort the farmer wants.

The agricultural difficulties of the past few years are reflected in the number of failures of rural banks. During the years 1921–1926 there were no less than 2,776 failures of state commercial and of national banks. Most of the banks that failed were small rural institutions.[6] The farmer cannot buy a farm by buying shares; he has to buy the whole business unit. That demands a comparatively large sum, which will have to be spread over a relatively long time. His turnover is too small to enable him to repay a mortgage loan in a few years.

The farmer who borrows to buy a farm or construct a barn wants a loan for more than four or five years in order to avoid the trouble of expense and renewal, with the periodic danger of foreclosure. The loan should run in many cases for twenty years or more; the payment should be arranged so that the principal may be gradually extinguished as the interest is paid, and the farmer should retain the right to extinguish the entire principal whenever it becomes convenient or practicable for him to do so. In the case of short-

[5] *Conditions of Agriculture in the United States*, p. 63.
[6] *Conditions of Agriculture in the United States*, pp. 63–64.

time loans on personal security, similarly, the farmer does not want a sixty-day or ninety-day loan — the kind of accommodation commercial banks prefer to give — but usually a loan running from six months to a year or more, in order to cover the waiting period between planting and harvest time. Moreover, the banks in some sections of the country are inclined to force farmers who borrow from them to specialize in one crop — a money crop — in order to keep the security in some easily realizable form.

In Europe, agricultural credit is furnished at reasonable cost and convenient terms by series of mortgage land banks and farmers' loan societies or credit unions, which vary greatly in detail and structure, but rest upon certain common fundamental principles. Long-time credit is provided by mortgage land banks, the oldest form of which is perhaps the Prussian *Landschaft*. These banks lend to their members on real estate mortgage, and then issue bonds secured by the entire body of mortgages in such a way as to replace or reënforce each individual's credit with the credit or security of the whole group. (This principle, however, is not peculiar to these banks; it is common in the United States.) In some of these associations all the property of the members is pledged for the support of the bonds, but experience makes it plain that this is unnecessary and that the mortgages themselves, under proper management, afford sufficient security to insure ready sale for the bonds.

The associations or banks which provide short-time credit differ greatly in form. Some are stock companies, receive savings deposits, and obtain a considerable part of the money funds which they lend from stock subscriptions and deposits. In others a group of men simply pool their credit, borrow from outside sources on their personal liability, and lend the proceeds of these loans to the members of the union.

In the United States various states have adopted laws providing for the formation of rural credit societies, but the *Federal Farm Loan Act*, passed in 1916, marked an especially notable advance. That Act was based on the methods used by several types of European credit societies, but it is somewhat cumbersome. It has had a marked effect on the interest rate, levelling it down,

especially in those states where interest rates had been especially high. And as a matter of course it is in those states that most of the loans have been made. A good feature is provision for amortizing the principal of the loan. The farmer pays a stated sum annually, consisting of the yearly interest and part of the principal. In about thirty-four years his total debt is extinguished.

As we have seen, if short-time advances by banks are to meet the needs of the farmer they must have longer maturities than are common in the case of ordinary commercial loans. This fact was recognized when the federal reserve system was established. To be eligible for rediscount at a federal reserve bank, commercial paper in general, the law provided, should have a maturity of not more than ninety days. But paper issued "for agricultural purposes" or "based upon live stock" might have a maturity of six months (increased by an amendment in 1923 to nine months). The Federal Reserve Board has interpreted these provisions liberally, even going so far as virtually to classify tractors as live stock. Moreover, so far as any discrimination has been shown in the rediscount rates authorized by the Board, it has been in favor of agricultural rather than commercial borrowings.

Farmers' representatives continued to claim, however, especially after the sharp fall in the prices of agricultural products and in land values after the crisis of 1920, that the credit facilities afforded them by banks were insufficient. Undoubtedly in some localities the farmers were exploited by their local banks. But in general the banks were not responsible for the real difficulties of the farmers' position. Some assistance was given by the War Finance Corporation, which had been created in 1918 as an agent of the federal government to make loans that would help in the prosecution of the war. After the armistice, when a sudden falling off of foreign trade was feared, it was given power to assist in the financing of exports, — a field in which there proved to be little demand for its services. In 1921 it was authorized to make loans upon the security of exportable agricultural products, including live stock. In that year and in 1922 it made advances on a fairly large scale to banks in agricultural districts and to coöperative marketing associations.

The War Finance Corporation was intended to be a temporary institution. The *Agricultural Credits Act* of 1923 provided a more permanent, but exceedingly complex, system. (1) It established twelve federal intermediate credit banks, operated by the government, to make loans on agricultural paper with a maturity of from six months to three years. (2) It authorized the incorporation, under federal charter and federal supervision, of live-stock loan companies, that may lend on the security of agricultural products as well as of life stock. (3) It made certain changes in the federal farm-loan system, and made the terms on which agricultural paper may be rediscounted by the federal reserve banks somewhat easier.

The farm loan and intermediate credit banks have reduced the cost of credit to farmers and have materially assisted them in getting forms of credit adapted to their peculiar needs. But their effect in reducing tenancy has been small, and in recent years the combination of liberal administration and falling land values has put some of the banks in a precarious condition and led to the failures noted above. It is possible that the importance of agricultural credit has been exaggerated. The farmer cannot borrow himself into prosperity. What he needs above all things is a price for his product that will cover the expense of its production.

The Marketing of Farm Products. — The work of the farmer is not finished until he has sold his produce. The consumer frequently pays for farm products more than twice what the farmer receives for them at the farm. This simply means that it may cost more to bring a cabbage to the consumer and to sell it to him, under modern systems of transport and marketing, than it does to grow the cabbage on the farm. It is probable, however, that the marketing system needs improvement at many points; marketing costs have increased since 1920, in all cases relatively and in some absolutely.[7] The farmer's position would be improved if he participated in the profits derivable from the marketing function.

Coöperative marketing is the remedy prescribed by many authorities and especially by the Federal Trade Commission on the Grain Trade. For a time coöperative marketing grew rapidly in

[7] E. R. A. Seligman, *The Economics of Farm Relief* (Columbia University Press, New York, 1929), p. 137.

the United States. From 1913 to 1925 the number of farmers' coöperative associations reported as active to the Department of Agriculture increased from about 2600 to over 8300; and it is estimated that in 1927 the amount of business handled by these and similar coöperatives not reporting to the Department exceeded $2,000,000,000. Coöperative associations have become especially prominent in the dairying industry. The Department of Agriculture estimates that in recent years about one third of the cheese produced and nearly one fifth of the fluid milk used for household purposes was marketed through coöperative associations. The largest number of coöperative associations and the largest volume of coöperative sales are found in the grain trade, in which farmers' elevators or lines of elevators, farmers' pools, and terminal sales agencies handle approximately about one third of the grain entering commercial channels.

Some of these associations, and particularly those which have discouraged overproduction and emphasized sales promotion along recognized lines, have been eminently successful. Little success, however, has accompanied the pools and other ambitious coöperative attempts to withhold materials from the market for the purpose of securing better prices later on.

In recent years political discussion of the farmers' plight has centered almost exclusively around plans for the improvement and control of marketing. This agitation culminated in June 1929, in the enactment of the so-called McNary-Haugen Act, the object of which is " to establish a Federal Farm Board to promote the effective merchandizing of agricultural commodities in interstate and foreign commerce and to place agriculture on a basis of economic equality with other industries." The administration of this act will be in the hands of a Federal Farm Board consisting of eight members selected by the President and confirmed by the Senate, together with the Secretary of Agriculture *ex officio*. Eventually it will be given a working capital of $500,000,000. Its success will probably depend upon the extent to which it acquires real control of output or production, and this will probably turn upon the extent to which the farmers of the country can be induced to join whole-heartedly in farmers' coöperative associations. If the

Board concentrates its efforts upon buying and storing farm products in periods of glut in the hope of securing better prices later on, it will probably fail as many of the large scale grain and tobacco pools have failed. If, on the other hand, it concentrates on regulating and reducing output and on greater efficiency in marketing, it may fulfill the expectations of its sponsors. In any event the experiment is well worth trying. The solution of the farmers' problem cannot be reached by discussion. At some point we must adopt the indispensable method of trial and error.

Speculation. — Speculation in farm products is almost unanimously condemned by farmer organizations, by agricultural journals, and by other representatives of agricultural interests. It is claimed that the exchanges hold prices down in the fall when farmers are selling their grain and then put up prices the next spring after the speculators have the grain in their possession. But at all times there are both buyers and sellers on the exchanges — those who sell " short " and those who sell " long."

It must be admitted that every sale involves a purchase, and therefore all short sales are balanced by long buying. Why not insist that the long buying raises prices, or at least offsets the tendency of the short selling in the opposite direction, and so maintains a given level? Some think the short seller by his aggressiveness, or by taking advantage of circumstances which cause dullness, no matter what they may be, is able to depress the market still further by offering his phantom wares. For the sake of the argument, let us grant that he might do so, but would any of the opponents of future trading like to be put into the position in which this speculator would be after a move of this kind? He has sold wheat at a low price, so low as to cause the producer a loss. The time will pass and his contracts will approach maturity. He must do one of two things: either buy a contract with which to settle by cancellation his obligation, or produce the wheat. From the standpoint of the speculator, it makes little difference which he does. If he has sold contract wheat at less than it was worth, or, what amounts to the same thing, for less than it is destined to be worth later, he is confronted by the necessity of buying in a rising market, and must, therefore, pay more than the price at which he had contracted to sell. Could he do a sort of slight-of-hand trick and buy more than he had sold while the price was demoralized he might, of course, make money. To assume that with very few exceptions this could be done, is to prove too much, for if the selling of the futures depressed the price, how, forsooth, can it be seriously contended that buying a like amount, or even more, will not correspondingly raise the price?

If operators on the boards of trade have the power to manipulate prices to

any considerable extent, it is undoubtedly with respect to the frequent minor changes, rather than in the long up-and-down swings over long periods. On the other hand, no clear case has yet been made in proof of the charge.[8]

Others claim that whatever is lost or won on the exchanges is a burden on the grain growers. If speculation is mere gambling on the rise and fall in prices, this would be like holding that the bets on a baseball game come out of the salaries of the players or the gate receipts. It is also held that the enormous commissions of brokers and other incidental costs all rest on the grain trade and are a part of the costs of marketing. If prices are made by forces outside of the speculators' power, it is difficult to see how the speculator can add commissions and other expenses to what the wheat cost him and pass it on to the consumer. The speculator hopes to sell at a price high enough to repay him for the cost of the wheat and the expenses connected with the transaction, but there is no guarantee that he will get it.

It can be shown that the speculative exchanges furnish a continuous market; they are places where those who wish to buy and who wish to sell are brought together. Here all information on the crops, consumption, shipments, the weather, — in fact everything which can possibly affect supply and demand, — are brought together, and it is upon such information, largely open to all, that speculative buyers base their judgments. Speculation is, on the whole, a steadying force in the market.

Not only does speculation tend to equalize price fluctuations between different points of time and between different markets, but it serves the exceedingly useful purpose of providing a body of professional risk takers whose function is to protect the actual merchandiser from many of the speculative risks inherent in modern business. This protection against risk is secured for the most part through "hedging," which has been defined as a purchase or sale for future delivery intended to offset and thereby to protect an actual transaction in merchandise. The terminal grain elevator which has accumulated a large amount of grain sells a corresponding amount for future delivery and thereby eliminates nearly all of the

[8] B. H. Hibbard, *Marketing Agricultural Products* (D. Appleton and Co., New York, 1921), pp. 146–147.

speculative risks involved in its business. The miller who has taken a contract to deliver flour at some time in the future hedges by buying future wheat sufficient to produce the flour called for in his contract. The country grain buyer who knows that an interval of time must elapse between the purchase of grain and its sale at the point of destination finds similar protection in a "future" which permits him to specialize in the distributive function of getting grain from the producer to the ultimate consumer with a minimum of speculative danger. Sometimes there are similar operations in the cotton market.

Speculation in the narrow sense, and, to a greater extent, the highly organized market we associate it with, are responsible for a certain amount of harmful gambling which it is desirable to suppress so far as possible; but in their ultimate economic effects the organized markets are highly useful institutions, designed to concentrate the uncertainties and risks inherent in the very nature of production for a future market. And it is important to note that hedging, the transaction by which risks are eliminated for those who prefer to specialize in the less dangerous types of profit-seeking, would be impossible without the more speculative traders who deliberately assume risks with respect to future fluctuations of prices. To steady and reduce these fluctuations, provide an open and a certain market, and eliminate the exploitation of the ignorant by the expert trader, speculation and the market mechanism which it requires seem to be necessary and inevitable.

Power Farming and Productivity. — There can be little doubt about the reality of agricultural distress since 1920. Some faint indications of its extent and causes are given in Table XXXVI on page 637. The essence of the trouble, as has been shown, lies in the fact that under conditions which have existed since 1920 the typical American farmer working with reasonable efficiency and industry could not earn reasonable profits and a living wage on the labor and capital which he devoted to farming. Prices did not cover costs and fair profits. The situation is one of continued overproduction.

The agricultural problem cannot be ascribed to technical inefficiency. On the contrary, extraordinary progress has been made

in technical efficiency since the close of the war. According to careful comparisons made by the Department of Agriculture of two periods, that of 1917–1921 and that of 1922–1926, crop production was 5 per cent greater, the output of animal products 15 per cent greater, and the productivity of farm workers 15 per cent greater, in the later than in the earlier period. "This increase in labor efficiency, probably never before equaled is attributable in part to the utilization of more productive live stock and crops, in part to the increased use of machinery and power on the farm."[9]

The increased use of machinery and power on the farm has already reached lengths which justify the expectation that in no great period of time grain farming and certain other branches of agriculture will adopt those commercial or capitalistic methods which have proved successful in manufactures and commerce. This movement has been accompanied by increased size of farms and other indications that in the future farming may perhaps be generally conducted under corporate organizations and management. These tendencies may prove merely temporary. But the probabilities are that they will grow in scope and strength. For the most part they do not show themselves in census and similar statistics. But some idea of their extent may be gathered from the growing displacement of horse-power by tractors in American farming. Between 1918 and 1929 the horses and mules on farms decreased from 26,428 to 19,476. In the same period the number of tractors in use on farms increased from 80,100 to 852,989.

While the increased use of machinery has in many cases greatly reduced the cost or expense of production, the increased output on the other hand has contributed in some part to the reduction of farm prices. In the long run it will probably be found that the farm problem can be solved only by a radical reduction in the number of farms and farmers. The same result could be reached by widespread limitation of output. Something may be accomplished along the latter lines by the coöperative associations working under the general guidance of the Federal Farm Board. But the surer remedy is drastic readjustment of capital and labor as between agriculture and other forms of industry.

[9] U. S. Department of Agriculture, *Year Book*, 1927, p. 8.

TABLE XXXVI

INDEX NUMBERS OF FARM PRICES, PRICES PAID BY FARMERS, WAGES, AND TAXES [10]

(1910–1914 = 100)

DATE	PRICES RECEIVED FOR FARM PRODUCTS	PRICES PAID BY FARMERS FOR COMMODITIES BOUGHT	RATIO OF PRICES RECEIVED TO PRICES PAID	FARM WAGES PAID TO HIRED LABOR	TAXES ON FARM PROPERTY (1914 = 100)
1910	103	98	106	97	
1911	95	101	93	97	
1912	99	100	99	101	
1913	100	100	99	104	
1914	102	101	101	101	100
1915	100	106	95	102	102
1916	117	123	95	112	104
1917	176	150	118	140	106
1918	200	178	112	176	118
1919	209	205	102	206	130
1920	205	206	99	239	155
1921	116	156	75	150	217
1922	124	152	81	146	232
1923	135	153	88	166	246
1924	134	154	87	166	249
1925	147	159	92	168	250
1926	136	156	87	171	253
1927	131	154	85	170	258

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[10] C. M. Purves, "Index Numbers of Prices Farmers Pay for Commodities Purchased," *Report of the U. S. Bureau of Agricultural Economics.*

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CHAPTER XXX

INSURANCE

Nature of Insurance. — The essential idea of the modern institution of insurance is coöperation in the bearing of losses which are likely to happen to any one of a large group of persons but which, in any short period of time, will actually fall upon but few members of the group. It is thus directly opposed to gambling, although wagers have frequently been made in the form of the insurance contract. It may appear at first that the man who insures his house is making a wager with the insurance company that his house will burn, but in fact it is like betting on both sides of an event. If the man does not insure, he may be regarded as betting that his house will not burn; but by wagering with the insurance company that it will burn, he relieves himself of risk. For this relief he is willing to incur the *certain* loss of his premium. Insurance does not free the policy holders from loss, but it means many small losses in place of a few unbearable ones. In modern life insurance there is usually no positive "loss"; that is to say, the insurance company usually pays back, when an insurance policy matures, all the premiums which have been paid on that policy plus some accumulated interest. The company charges for the protection which it furnishes only part of the interest earned on the premiums contributed. Modern life insurance thus represents coöperative investment as well as coöperative risk bearing.

The question is sometimes asked whether insurance is productive in the sense that other economic activities are productive. The answer is decidedly in the affirmative, for the feeling of security that it makes possible is a real satisfaction which we are willing to purchase. Then too, there is a very important economic gain in distributing among many persons the burden of losses which would otherwise fall heavily upon a few. Furthermore, the relief of distress among the unfortunate without compelling them to accept

charity is a distinct social gain, and finally, many of our business operations are facilitated by the existence of a system of insurance. Prevention of loss is not properly a part of the idea of insurance, but nevertheless insurance as it exists today does have many tendencies in that direction, especially in such forms as fire and steam-boiler insurance. On the other hand, insurance causes a certain amount of loss by provoking to some extent incendiarism, self-mutilation, or suicide, and even normal persons are likely to be less careful when they know they are insured. On the whole, however, we can scarcely overestimate the importance to society of an institution which equalizes economic shocks and multiplies the incentives to thrift.

The Law of Probabilities. — A special profession (that of the actuary) and a special branch of mathematics have grown up as a basis of the institution of insurance. It is a knowledge of the law of large numbers that changes insurance from a wager to a business of a routine-like nature. If a coin is tossed a large number of times, heads will appear about as often as tails. This may be counted upon as practically certain, but with respect to any particular throw taken by itself, there is no way of telling in advance whether heads or tails will appear. This truth has been worked out and applied most definitely to life insurance, but in other business callings also an effort is made to gather data that will make possible the formulation of statistical laws as guides in making business plans.

Origin and Development. — Arrangements embodying the idea of insurance are found among the ancients, but the modern institution of insurance, although its origin is obscure, first became prominent in the loans on bottomry which became common during the thirteenth and fourteenth centuries. A loan on bottomry meant that money was borrowed by the owner of a ship and was to be repaid with interest at the termination of his voyage, but the principal and interest were not to be repaid if the ship was lost. Sometimes this took the form of insuring the captain's life, but no scientific system of life insurance appeared until the compilation of life tables.

Fire insurance received an impetus from the Great Fire of London in 1666, the first company organized upon strict mercantile prin-

ciples being the "Fire Office," organized in 1680. It had a brigade of its own to prevent and extinguish fires. In 1693 Edmund Halley made a report to the Royal Society regarding the mortality at various ages upon the basis of tables of births and funerals in the city of Breslau; but, practically, life insurance as a business dates from the organization of the "Old Equitable" in 1762. Before this, however, there were many associations for conducting insurance upon a speculative basis, which entered into wagers of every conceivable description.

Even the morality of the newspapers of that day was shocked by such proceedings: we find the *London Chronicle* of 1768 thus declaiming, "The introduction and amazing progress of illicit gaming at Lloyd's Coffee-house, is among others, a powerful and very melancholy proof of the degeneracy of the time. Though gaming in any degree is perverting the original and useful design of that Coffee-house, *it may in some measure be excusable to speculate on the following subjects:* — Mr. Wilkes being elected member for London; *which was done from 5 to 50 guineas per cent.;* — Mr. Wilkes being elected member for Middlesex, from 20 to 70 guineas per cent; — Alderman Bond's life *for one year*, now doing at 7 per cent; — On Sir J. H. (mark the modesty) being turned out in one year, now doing at 12 guineas per cent; — On John Wilkes' life for one year, now doing at five per cent. N. B. — *Warranted to remain in prison during that period;* — On a declaration of war with France or Spain in one year, 8 guineas per cent." "But," continues the sensitive journalist, "when policies come to be opened on two of the first peers in Britain *losing their heads at 10s. 6d. per cent* or on the dissolution of the present parliament within one year at 5 guineas per cent, which are now actually doing, and under-written *chiefly by Scotsmen*, at the above Coffee-house, *it is surely high time to interfere.*"[1]

In the United States, fire insurance was fairly well begun even in pre-revolutionary days. In 1830 the New York Life and Trust Company was organized, and twelve years later appeared the Mutual Life Insurance Company of New York which is the oldest of the existing American life insurance companies which insure more than a restricted class of individuals. In the seventies numerous failures brought the "old line" life insurance companies into discredit, and in the following years this fact, together with the desire for cheap insurance, caused a marked development of assessment insurance, against which there has in turn been a

[1] Walford, *The Insurance Guide and Handbook* (C. Layton, London, 1901, 4th ed.), p. 27.

reaction because of its unscientific basis. Subsequently some of the "old line" companies again suffered a loss of prestige on account of the extravagance and corruption revealed by official investigations. The evil practices had to do chiefly with the management of the surplus, which was not under legal control as was the reserve. (These terms will be explained presently.) The accompanying tables show the growth in American life insurance since 1850. The check in 1880 may be noted. Between 1890 and 1910 the total amount of life insurance in force in ordinary and industrial companies increased fourfold. Table XXXVII B shows a more rapid rate of increase, both in Ordinary Insurance and in Industrial Insurance after 1910 than before, and a new development, that of Group Insurance. The figures do not include the insurance fraternal orders, which had 8,549,251 certificates and $9,834,696,743 of insurance in force in 1926.

Forms of Insurance Organization. — Fire insurance may be written by stock companies, by mutual companies, or by associations of individual insurers, known as underwriters and Lloyds. Mutual companies, again, may be either local (county or town) mutuals, state or general mutuals, or the manufacturers' mutuals.

TABLE XXXVII A

NUMBER OF POLICIES AND AMOUNT OF LIFE INSURANCE IN FORCE IN ORDINARY AND INDUSTRIAL COMPANIES, 1850 TO 1910 [2]

	ORDINARY		INDUSTRIAL	
Calendar Year	Number of Policies	Amount (Dollars)	Number of Policies	Amount (Dollars)
1850	29,407	68,614,189	——	——
1860	60,000	180,000,000	——	——
1870	839,226	2,262,847,000	——	——
1880	685,531	1,581,841,706	236,674	20,533,469
1890	1,319,561	3,620,057,439	3,882,914	428,789,342
1895	1,940,945	4,917,694,131	6,952,794	820,746,562
1900	3,176,051	7,093,152,380	11,219,296	1,468,928,342
1905	5,621,417	11,054,255,524	16,872,583	2,309,754,235
1910	6,954,119	13,227,213,168	23,044,162	3,179,489,541

[2] Statistics from the *Insurance Year Book*.

TABLE XXXVII B

AMOUNTS OF LIFE INSURANCE IN FORCE, BY CLASSES[3]
(In Thousands of Dollars)

YEAR	AMOUNTS OF LIFE INSURANCE IN FORCE		
	Ordinary	Group	Industrial
1911	14,374,539	——	3,355,589
1912	15,315,802	13,172	3,626,497
1913	16,304,966	31,202	3,868,269
1914	17,091,561	64,468	4,046,111
1915	17,956,463	99,049	4,304,963
1916	19,396,661	152,859	4,662,070
1917	21,261,234	346,525	5,051,312
1918	23,122,510	627,008	5,500,953
1919	27,611,252	1,135,036	6,374,342
1920	32,827,156	1,614,387	6,922,572
1921	35,710,348	1,575,821	7,705,638
1922	38,861,734	1,808,211	8,555,119
1923	43,476,206	2,430,829	9,746,445
1924	48,457,565	3,133,620	10,939,831
1925	53,671,545	4,228,345	12,361,384
1926	58,117,778	5,338,655	13,516,835
1927	64,052,576	6,274,636	14,474,197

The local town mutuals have the advantage that they can be conducted with a very low cost of administration, but the stock companies seem best adapted to the business of fire insurance, since it is desirable that the risk of a conflagration should be spread over a very wide territory.

Life companies are also found both in the stock and mutual form. Theoretically the management of the latter is in the hands of the policy holders themselves, but in actual practice they must be managed by a small group of financiers. Life insurance companies are also classified according to the plans of premium payments:

[3] President's Conference on Unemployment (Herbert Hoover, Chairman). Report of the Committee on *Recent Economic Changes* (The McGraw-Hill Book Co., New York, 1929), p. 487.

(1) "old line" level premium, (2) assessment, and (3) stipulated premium.

Where risk enters in modern life, companies are often organized to offer an escape from it through insurance even before enough data have been collected to make possible the accurate prediction of the amount of loss. In addition to life insurance we have indemnity in case of sickness, accident, destruction by fire, wind, hail, or explosions of boilers or fly wheels, broken windows, and loss from burglary, or the unfaithfulness of employees. Liability insurance in over a dozen different forms guards against loss from damage suits. It is impossible to take up the problems that are peculiar to each one of these branches, and attention will be confined to some of the leading features of life insurance and of what is called social insurance.

Life Insurance. — (1) *Life Tables.* A life table or mortality table shows how many of a large group of persons of the same age will survive to each higher age. A number of these tables have been calculated, but the one generally used in this country is the American Experience Table, a portion of which is here reproduced:

TABLE XXXVIII

Age	Living at Beginning of Year	Dying during the Year
10	100,000	749
11	99,251	746
12	98,505	743
13	97,762	740
14	97,022	737
15	96,285	735
16	95,550	732
17	94,818	729
18	94,089	727
19	93,362	725
90	847	385
91	462	246
92	216	137
93	79	58
94	21	18
95	3	3

With such data and with an assumed rate of interest and expense, it is possible to say with considerable certainty how much money must annually be collected from the policy holders in order to pay each one $1000 or other specified sum at death.

(2) *Premium Plans.* — It would be possible to collect from those surviving at each age enough money to pay for the deaths that would happen during the ensuing year. This *step rate or natural premium plan* necessitates a larger and larger assessment with advancing age; that is, as the earning power of the insured is declining. This induces many persons who continue in good health to discontinue their insurance, thus leaving only an "adverse selection of risks" for the insurance company or association. It has become customary to arrange the payments on what is known as the *level premium plan*, the same annual payment being made throughout the life of the policy. This payment may be on the *ordinary life plan*, that is, the payments continue throughout life; or ten, fifteen, or twenty *limited payments* may be made, the policy continuing in force for life; or the insurance may be for only a *term* of years during which the premiums are paid, the insurance ceasing entirely at the end of the term. This is the cheapest kind of insurance, for the insurance company knows that many of the insured will survive beyond the term, and to them no payment need be made, but when the insurance continues for life, the payment becomes a certainty in every case.

(3) *The Reserve.* — If a level premium is charged, the income of the company in the earlier years of a policy exceeds the expense of carrying the risk, as measured by the losses on account of the deaths among the policy holders of like age. The portions of the premium not currently used must be held for the credit of the policy holder until the later years, a certain rate of interest being allowed. This accumulating fund is known as the *reserve*. In the later years of the life of a policy, the reserve is gradually drawn upon to meet the deficit arising from the fact that in these years the level premium payments will be insufficient to meet the cost of carrying the risk, — smaller, that is, than they would have been under the step rate or natural premium plan.

(4) *Surplus.* — If the insured live longer than was assumed by

the company in calculating its premiums, more money will be collected than is necessary to meet the obligations of the insurance contracts. This is one source of *surplus*. Again, the funds held in trust by the company may be invested at a higher rate of interest than was assumed in the calculations, and this is a second source of surplus. A third source of surplus is in keeping expenses below what was assumed in the calculations. (The addition which is made to the net premium to cover expenses is called "loading," and is commonly not far from a fourth of the gross premium.) The amounts paid in by those who subsequently lapse or surrender their policies do not all go to the surplus, for it is customary now to allow "surrender values" and "paid-up insurance"; but as these allowances are subject to a surrender charge, there is some addition to the surplus from the surrendered or lapsed policies. Out of the surplus are paid the dividends on the capital stock, if there be any, and the dividends to each policy holder, which in some cases are credited or paid annually to each policy holder, but in other cases not until the expiration of a period of years.

(5) *Endowments.* — What is ordinarily called an endowment policy is a combination of two distinct forms of contract. A simple life insurance contract promises to pay a certain sum upon the death of the insured; a *pure endowment* contract would pay a certain sum if the holder of the policy survives after a period of years. A twenty-year endowment insurance policy combining these two features means that payment would be made at death if that occurred within the twenty years, or at the expiration of twenty years if the policy holder survives.

This form of policy has been declining in popularity because in its ordinary form it is disadvantageous to the policy holder, unless he be so thriftless that he cannot be induced to save in any other way. If insurance could not be obtained in any other way, it might be wise to purchase such a policy, but the objects of saving and insuring can be more cheaply accomplished by separating the two features. If, instead of paying $50 for an endowment policy, the holder paid part of this for term insurance and put the remainder in a savings bank at three or four per cent compound interest, there might be more to his credit whether he lived or died. But when

the loading is properly arranged, and with an annual distribution of surplus, the endowment policy performs a useful function as an encouragement of thrift. In fact, a very long-term endowment maturing at, say, age sixty-five, would best meet the needs of a great many persons. Many others, feeling that they lack the necessary determination to save regularly a portion of their incomes in the ordinary way, find the endowment policy a useful form of "compulsory saving."

These points will be made clearer by the following illustration of what becomes of the premium in the case of a ten-year endowment policy at age thirty-five with a premium of $107.70, when it is assumed that the mortality will be in accordance with the American Experience Table, that the company will earn three per cent on its funds, and that the expense charged each year to this policy will be as given in the table.[4]

TABLE XXXIX

Policy Year	Expense Charge	Mortality Charge	Deposit
1	$ 18.40	$ 7.96	$ 81.34
2	18.40	7.31	165.77
3	18.40	6.62	253.42
4	18.40	5.89	344.43
5	18.40	5.10	438.96
6	18.40	4.26	537.17
7	18.40	3.32	639.27
8	18.40	2.32	745.43
9	18.40	1.21	855.89
10	18.40	—	970.87
Totals	$184.00	$43.99	

Industrial Insurance. — Industrial Insurance was introduced into the United States towards the end of the nineteenth century. It was realized that, although the workman was in urgent need of insurance, he was not able to take advantage of ordinary insurance plans. It was suggested that insurance companies should provide ordinary insurance for workers by charging a weekly premium and

[4] Report of the Wisconsin Joint Legislative Investigating Committee, 1906, p. 153.

sending a representative of the company to collect it. The plan was attempted by several companies, and the development of the scheme was rapid, as will be seen by referring to the tables on pages 643–644. In 1927 Industrial Insurance involved over seventy-six million policies with a face value of about fourteen billions of dollars. The cost of Industrial Insurance is considerably higher than that of ordinary insurance, due principally to the expense of collecting the premium and the higher rate of mortality among industrial workers. It has been learned by experience that as far as wage-earners are concerned premiums must be collected at frequent intervals by a personal representative of the insurance company. The size of the industrial policy averages less than $200. A popular type of this form of insurance is the child's endowment policy. Children are accepted in Industrial Insurance for a limited amount, the amount being increased as the child grows older. Special infantile actuarial tables have been drawn up for this purpose.

Group Insurance. — A recent development in Industrial Insurance has been the introduction of *Group Insurance*. By means of a single or blanket insurance policy a number of individuals are covered.

> This type of contract, from its very nature, has been applied to the employees of industrial concerns, where the employer assumes the responsibility for the payment of the premium, it having been found impractical to grant insurance on a group without having some central responsibility.[5]

The first group insurance policy was written in 1911. Since that year this form of insurance has grown with remarkable rapidity, and its field has been considerably extended.

> At first only insurance promising payment in case of death was written but now various types of policies, including limited-payment life and endowment policies, as well as accident and health insurance and old age annuities, are sold under the group contract. In other words, practically the entire field of life insurance is covered by group policies, although the contract most commonly used is the one-year renewable term.[6]

[5] R. Riegel, *Insurance; Principles and Practice* (Prentice-Hall, Inc., New York, 1922), p. 132.

[6] *Ibid.*

By the end of 1927 the total group life insurance in force throughout this country was $6,274,636,000. In Wisconsin, one hundred and three million dollars of group insurance was in force in 1927, of which thirty-eight million dollars was written in that year.[7] Although most of the group insurance has been issued to employers for the protection of their employees so long as they are working in that particular firm the last few years have seen the development of group policies covering local labor unions. In 1925 the Union Coöperative Insurance Company was organized, sponsored by the International Brotherhood of Electrical Workers; and, in 1927, a similar organization was created, under the auspices of the American Federation of Labor, known as the Union Labor Life Insurance Company. In less than a year after this company was organized, it had more than thirty-five million dollars of insurance in force. Most of the insurance was group insurance, although this company has also issued policies to individuals. The legal status of labor union group insurance is uncertain, and varies from state to state.

State Insurance. — Insurance is well adapted to direct management by the State because the actual conduct of the business is of a relatively simple and routine character and because the State can offer greater security than is possible in the case of any private company. If the State had a monopoly of the business and compelled every one to insure, it could, perhaps, without any selection of risks, effect the insurance at a lower price than that asked by any private company. State Insurance has not been developed to any great extent in the United States, though it is quite common in Europe. In Switzerland, for example, insurance against fire is effected by 20 Cantonal offices, 2 private mutual insurance societies, 23 joint stock companies, and 2 local funds. In 14 out of the 25 cantons, and in 4 half cantons, fire insurance of buildings is obligatory and the State has a monopoly of it. It is claimed that the cantonal system of insurance has led, in Switzerland, to "*an inexpensive distribution, socially speaking*, of insurance burdens." [8]

[7] E. E. Witte, "Group Insurance: The Legal Status of Issuance of Group Life Insurance Policies to Labor Unions," *Monthly Labor Review* (November, 1926), Vol. XXVIII, No. 5.

[8] "Cantonal Fire Insurance in Switzerland, 1805–1925," *Annals of Collective Economy*, Geneva (November–December, 1926), Vol. II, No. 4, pp. 343–382.

In this country the State of Wisconsin began, in 1913, the sale of life insurance. The main object of the law was the reduction in the cost of insurance by reducing the expense of solicitation and administration. The credit of the State is involved only to the extent of the life fund created by the insurance act. The State life fund has never developed any very large volume of business, though it has grown a little each year. The assumption that people would buy life insurance without solicitation has not proved correct. The fund has no agents, and, consequently, few policies have been taken out. In 1929, 935 policies were outstanding with a total insurance of $1,148,850. The chief obstacles in the way of State Insurance in the United States are the inability to secure a sufficient volume of business and the political character of the management.[9] National government insurance of marine risks was, however, very extensively adopted during the war, but was afterwards abandoned.

State Regulation. — Following the example of Massachusetts in 1858, other states appointed insurance commissioners for the supervision of this business, and the insurance laws of a single one of these states are now sufficient to make a good-sized volume. Insurance companies have found this variety of control irksome and have generally advocated federal control of insurance. Although something would be gained, it cannot be said that there is any great need of federal control of life insurance, not to mention the constitutional difficulties, because it is not absolutely necessary, as in transport or fire insurance, that one life company do business in many states, and the people of each state should have the power to say what kind of insurance institutions they desire to have.

An enumeration of the requirements in the state of New York will illustrate the nature of state regulation: A certificate of authorization must be obtained from the Superintendent of Insurance and a deposit of securities must be made. A minimum capital stock is prescribed and regulations are made concerning the investment of stock and surplus. There are also provisions relating to standards of solvency, reinsurance, limitation of risks, admission of foreign companies, examination of accounts, and annual reports.

[9] See Riegel, *op. cit.*, p. 36.

The policy must contain the entire contract, and the statements are to be taken as representations and not warranties. No misleading estimates and deceptive statements are to be issued for the purpose of getting business. Life insurance companies are to do either a participating or non-participating business, and in the former case the surplus must be annually apportioned and paid to each policy. There are further provisions regarding the valuation of policies, surrender values, discrimination, election of directors, limitation of the amount of new business each year, limitations as to expenses and salaries of officers, and standard forms of policies are prescribed for both life and fire insurance.

Social Insurance

Social Insurance Defined. — Social insurance refers to those insurance or quasi-insurance institutions which are organized by the State to alleviate the distress which is likely to fall upon the poorer classes as a result of accident, sickness, invalidity, old age, unemployment, and the premature death of the chief wage-earner of the family. All insurance is obviously social in the sense that it implies coöperation on the part of many persons and is subject to extensive State regulation, but what is called social insurance implies the activity of the State far beyond mere regulation. Social insurance is to be distinguished from poor relief in that it recognizes that the normally thrifty wage earner cannot purchase adequate life and accident insurance from private commercial companies and that the responsibility rests on society to provide that which it is impossible for the individual to provide. It endeavors by insurance methods to provide in advance for the coming of the evil day, so that the benefits paid will be received, not as a matter of charity, but as a matter of right.

Compensation for Industrial Accidents. — In the United States social insurance began its development in connection with the problem of industrial accidents. Under the common law, the employer is not responsible to an employee injured while at work if a reasonably safe place to work has been furnished. Even if the employer is at fault, there is no redress if there has been contributory negligence on the part of the employee or one of his fellow

servants or if the accident happens without negligence that can be traced to any particular person. This law of negligence has generally been modified by legislation designed to increase the responsibility of the employer, as, for example, by the restriction or elimination of the fellow-servant doctrine. While employees have sometimes been able to secure damages amounting to small fortunes, the general result of this legal system is that in the vast majority of cases only small damages or none at all are secured, or, if secured, they are in large part offset by the cost of litigation. The liability of the employer, however, is a serious matter to him, and an expensive system of employers' liability insurance has grown up. The more severe the modifications in the law of negligence become, the higher are the rates imposed by the liability companies. Such is the expense of conducting this business that it is safe to say that less than one half of the money paid for employers' liability insurance premiums ever reaches the injured employees in damages. While labor leaders were drafting bills designed to increase still further the liability of employers, attention was turned to laws enacted in Europe, where the view had come to prevail that it is useless to try to locate the responsibility for accidents, except for purposes of preventing them in the future, and that if a workman is injured in the course of his employment, he should be promptly assisted, even if he had been negligent. Accidents were looked upon as a trade risk against which the workingman should be adequately insured.

The result was that in the years following 1910 a wave of workmen's compensation legislation swept over our northern and western states. By January, 1929, all but five of our states had enacted compensation for accident laws.[10] The federal government had in 1908 established a system of compensation for industrial accidents for the majority of its industrial employees.

The provisions of the various state laws differ greatly in detail, but it may be said that in general they provide for definite payments to injured workmen in hazardous employments, practically regardless of negligence and almost universally at the expense of the employer. In some states the law is compulsory, that is, the

[10] See Chapter XXXI.

employer engaged in the industries covered must pay the compensation specified and must insure himself against the liability. In other states the law is nominally optional, the employer and employee being free to remain under the old law of negligence, but an inducement is given to them to choose the new compensation method by providing that if either does not accept it, he is put to certain disadvantages under the law of negligence. The purpose of this roundabout method (not always successful) of securing compliance is to overcome the difficulty that under our constitutional guarantees of freedom a direct compulsion might not be sanctioned by our courts, while the modification of the law of negligence is well established by precedent.

Four methods of insurance are practiced for the protection of employers against the legal liability imposed by the Workmen's Compensation Acts: Employers may insure in (1) a stock company, (2) a mutual or reciprocal organization, (3) a state fund, or (4) they may carry their own risks by setting aside money in a fund devoted to compensating workmen in case of accidents. In the last method of insurance, it is difficult for the state to watch over the employer's financial capacity to compensate workmen. The State Accident Insurance funds are frequently immune from taxation and receive certain other privileges. The rates for insurance are usually lower; and there is less likelihood of workmen losing compensation through the failure of the fund than is the case with private stock companies, several of which have, in the past, failed disastrously. It is argued, by some, that, if the State compels an employer to insure, it should also secure for him a means of doing so as cheaply as possible; while others claim that state insurance funds are apt to be wasteful and inefficient.[11]

Worker's compensation acts have been sponsored for many years by the American Association for Labor Legislation. The following standards were recommended by the Association in 1914.[12]

1. As to the scale of compensation: Medical attendance should

[11] Cf. R. Riegel, *op. cit.*, p. 171.

[12] *American Labor Legislation Review* (December, 1914), Vol. IV, p. 585.

be furnished. No compensation should be paid for a definite period at the beginning of disability, the period being not less than three nor more than seven days. The disabled workman should receive during total disability 66⅔ per cent of wages, not to exceed $20.00 a week and not less than $5.00. In case of partial disability the compensation is to be based on loss of earning power. In case of death, the employer should be required to pay funeral expenses, and the widow, if living with the decedent at the time of his death, or if dependent, should be granted 35 per cent of his wages until her death or re-marriage, with a lump sum on re-marriage equal to two years' compensation. Compensation may also be given to other dependents.

2. The general argument for compensation applies to all employments, but practical considerations may justify the temporary exclusion of farm labor, domestic servants (except in connection with hotels and restaurants), and casual employment not carried on for the profit of the employer.

3. Compensation should be provided for all personal injuries in the course of employment, and death resulting therefrom in six years, but no compensation should be allowed where the injury is occasioned by the willful intention of the employee to bring about the injury or death of himself or another. The act should embrace occupational diseases which, when contracted in the course of employment, should be considered personal injuries for which compensation shall be payable.

4. Compensation should be the exclusive remedy; that is, the workman should not be given the option of bringing suit under the law of negligence.

5. Employers should be required to insure their compensation liability. Employers may maintain their own insurance fund under certain conditions, insure in a mutual association, in a state insurance fund, or in a private stock company.

6. An accident board should be maintained by the state, the members of which should devote their entire time to the administration of the compensation law.

7. Provision should be made for the settlement of compensation claims either by agreement subject to the approval of the accident

board, or if no agreement is reached, by arbitration, with an appeal to the accident board. Appeals from the decrees of the accident board should be allowed only on questions of law.

8. Provision should be made for full and accurate reports of all industrial accidents.

At the present time the American Association for Labor Legislation is bending its energies towards the standardization of existing compensation laws and the attainment of compensation for all occupational diseases throughout the whole country. Occupational diseases are already included by the compensation laws of 11 states, 3 territories, and in the District of Columbia. About half of these laws, however, cover only specified diseases, such as lead poisoning, anthrax, and caisson.[13]

Sickness Insurance. — Compulsory sickness insurance has been introduced in about one half of the large countries of Europe and voluntary subsidized sickness insurance in others, but we have so far left practically everything in this direction to private effort, although there are state miners' hospitals in several states and the federal government conducts a hospital service for seamen. Many students of the subject believe that sickness insurance will never be made effective unless it is made compulsory. It is significant that Great Britain, where the traditions, as in the United States, are against compulsion, made sickness insurance compulsory by the act of 1911. The majority of workers, by virtue of being employed, are assured certain benefits in case of illness, the cost of the insurance being met partly by the government, partly by the employer, and partly by deduction from the employees' wages. In Germany, where a system of compulsory sickness insurance was established as early as 1883, one third of the cost is borne by the employers and two thirds by the employees. The sickness insurance benefits in that country cover also the care in whole or in part for the first thirteen weeks of those injured as the result of industrial accidents, after which time the accident benefits are paid wholly from accident insurance funds, and include maternity benefits, funeral benefits, and sometimes sick benefits for the members of the family other than the insured. Maternity benefits were added in England by

[13] *American Labor Legislation Review* (December, 1927), Vol. XVII, p. 261.

an amendment in 1913. In the United States, protection of maternity and infancy through Federal-State coöperation has been adopted by Congress and has been accepted by the majority of the states.

In the absence of a comprehensive system of State insurance against sickness, this form of insurance is sometimes provided by employers in this country. For example, an agreement between the Chicago and Joliet Electric Railway Company, effective for three years from January 1, 1927, provides for insurance covering sickness and non-occupational diseases. The employees of this company, after one year's continuous service, receive $20 a week during the period of disability for a period not exceeding 26 weeks. Payment begins after the first seven days of disability. Moreover, where occupational accidents occur, if the State compensation does not amount to $20 a week, an additional sum is paid, by the terms of the agreement, to bring the total amount to $20 a week.

Old-Age Insurance. — Old-age pensions, as a form of State Social Insurance, have been a matter of much discussion and disagreement. Many industrial and commercial concerns have provided pensions for their employees, but the failure of certain of these schemes "called attention to the ease with which their true costs can be overlooked." [14] In recent years the question of State old-age pensions has been frequently before the public. We were long familiar in the United States with a pension system growing out of past wars and with local pensions for firemen and policemen. Some European countries have provided for the necessities of the aged poor by voluntary insurance, or by compulsory insurance. Invalidity and old-age insurance is one of the three great branches of the German insurance system. It covers the great majority of the wage earners of both sexes. There are contributions in equal amounts by the insured workmen and their employers and a yearly addition is made to each pension by the government. The English law of 1908, on the other hand, provides for a straight pension to persons 70 years of age or over whose incomes are below $153 a year

[14] President's Conference on Unemployment (Herbert Hoover, Chairman). Report of the Committee on *Recent Economic Changes* (The McGraw-Hill Book Co., New York, 1929), Vol. II, p. 526.

and who have not certain disqualifications mentioned in the act. The amount paid varies from 24 cents to $1.20 a week. The British system resembles poor relief more closely than insurance. For years an attempt had been made to induce the United States government to adopt an old-age pension system for its employees, and in 1920 Congress passed a law covering classified federal civilian employees. A contributory system was adopted, which is generally desirable as permitting of more liberal incomes and as encouraging thrift.

Within recent years a number of schemes for the creation of state old-age pensions have materialized in this country. In 1923 Nevada, Montana, and Pennsylvania established old-age pension systems. The Pennsylvania law was, however, declared unconstitutional by the State Supreme Court in 1925. Wisconsin and Kentucky passed old-age pension laws in 1925 and 1926 respectively. The table on page 659 shows the status of old-age pension legislation in the United States in July, 1929.

Unemployment Insurance. — The solution of the problem of unemployment involves much more than insurance. The progress of industry should be made less irregular and men and opportunities for work should be brought together more readily. The question of labor exchanges is discussed in the following chapter. It is not to be expected, however, that unemployment can be eliminated. It is a misfortune which should be provided against by some form of insurance. Many European countries have, however, made experiments which have left much doubt as to the practicability of insurance as a general remedy for the evil of unemployment. The present unemployment problem in England, in spite of unemployment insurance, is admittedly most grave. The "dole" has proved merely a palliative. The contributions of the Exchequer to the Unemployment Insurance Fund amounted to nearly three hundred and ninety million dollars during the period 1920–27. Laws have had to be enacted, since 1920, enabling unemployment benefits to be paid to persons who had not satisfied the usual requirements of prior contributions. Unemployment benefits in England, it must be remembered, amount to less than five dollars a week for men and to less than four dollars a week

TABLE XL

Old-Age Pension Systems in the United States [15]

State	Age	Maximum Pensions	Maximum Property Limitations	Citation
Alaska	65 [a] / 60 [b]	$25 a month for males, $45 a month for females	Shall have no other sufficient means of support	Acts of 1923, ch. 46. (See also Acts of 1915, ch. 64; Acts of 1913, ch. 80)
California	70	$1 a day	Assets, $3000	Acts of 1929, ch. 530
Colorado	70	$1 a day	Assets, $3000	Acts of 1927, ch. 143
Kentucky	70	$250 a year	Income, $400 a year; assets, $2500	Acts of 1926, ch. 187
Maryland	65	$1 a day	Assets, $3000	Acts of 1927, ch. 538
Minnesota	70	$1 a day	Assets, $3000	Acts of 1929, S. F. No. 102
Montana	70	$25 a month	Income, $300 a year	Acts of 1923, ch. 72
Nevada	65	$1 a day	Assets, $3000	Acts of 1925, ch. 121
Utah	65	$25 a month	Income during past year, $300	Acts of 1929, H. B. No. 28
Wisconsin	70	$1 a day	Assets, $3000	Acts of 1925, ch. 121
Wyoming	65	$30 a month	Income, $360	Acts of 1929, ch. 87

[a] Males. [b] Females.

[15] Based on Statistics given in the *Monthly Labor Review* (July 29), Vol. XXIX, No. 1, p. 28.

for women. Complaints have not been lacking on the part of the workmen themselves, who, in most cases, would prefer steady, well-paid employment to eking out a miserable living with the aid of the dole. The British Government has also tried to provide employment in Canada and elsewhere for those unable to find work in England. The solution of the unemployment problem in England will probably be extensive emigration, unless British industry revives sufficiently to absorb the huge surplus of workers in the country.

Objections to Social Insurance. — Aside from questions of constitutional law, social insurance is met with the following difficulties: (1) It implies a considerable addition to the wages bill and it has been urged that it is unfair to place this burden on the employers of one state unless similar burdens are placed on employers of other states. (2) It is contrary to the economic philosophy of those who wish to see State activity reduced to a minimum. (3) It has been charged that social insurance discourages thrift and that it leads to demoralization because it encourages malingering and staying at home for trivial ailments. Cases are cited in which a maternity benefit was spent on liquor by the husband, and one man is said to have spent the maternity benefit in the purchase of a phonograph. It should be noted, however, that all insurance is subject to abuse. Who would question the beneficence of fire insurance because it leads in some cases to incendiarism? Fire insurance companies do a good deal in the way of fire prevention. Similarly, not the least important aspect of social insurance is its relation to the conservation of the national health. The employers' associations in Germany organized for accident compensation have done much for accident prevention, and a system of sickness insurance gives timely medical and adequate care to many who now waste their money on patent medicines.

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CHAPTER XXXI

LABOR LEGISLATION

The conditions of employment may be fixed by individual bargaining between the employer and employee, by collective bargaining between the employer and groups of employees, or by the State itself through legislative enactment. Collective bargaining, as a legally recognized institution, is of comparatively recent origin. At the beginning of the nineteenth century, combinations of workmen to improve their conditions of employment were unlawful in England and France. In the United States no statutory law forbade combinations to raise wages, but juries were occasionally instructed that all such organization was illegal. After 1836 the doctrine that all types of workers' combinations were illegal was "allowed to die by common consent."[1] The legality of collective bargaining was recognized by the courts. But certain classes, particularly women and child wage workers, have found it extremely difficult to organize for collective bargaining. In their case the State has entered upon a program of positive protection, acting so far as children are concerned *in loco parentis*. Adult men, with their trade-unions, have been left very largely to take care of themselves; but trade-unions, occupied with the absorbing questions of wage and hours of labor, frequently show marked indifference towards certain conditions of employment, such as safety and sanitation, which from the public standpoint are highly important. Of these conditions the public in its own interest has been forced to take cognizance. Legislative enactments have also been used both to foster thrift, thus placing the workman in a better position to protect his own interests, and to maintain uniform conditions of employment, so that industry shall be conducted under uniform

[1] E. E. Witte, "Early American Labor Cases," *Yale Law Journal* (May, 1926), Vol. XXXV, p. 827.

rules. To most employers, for instance, it makes very little difference whether they are permitted to hire children under fourteen years of age or not; but it is very important to them that they should not be bound by more onerous restrictions than are imposed upon their competitors. From this and some other standpoints, the universality and rigidity of the labor law are virtues: the stricter its enforcement and the wider the area to which it applies, the better.

Freedom of Combination, Conspiracy, and Injunctions. — An account of the slow steps by which trade-unions in England finally came to be recognized as lawful combinations has been given in Chapter III. Long after 1824, when the statutes directed against such combinations were repealed, the unions had to meet and overcome one legal obstacle after another. Different factors, undoubtedly, contributed to their final success. The political power of workingmen had grown rapidly. There was a better understanding of the problems of labor and more sympathy with the aims of labor organizations. Furthermore, hostile laws and adverse judicial decisions had been found powerless to halt the advance of the trade-union movement.

In the United States, striking trade-unionists were prosecuted for criminal conspiracy as early as the first decade of the nineteenth century, and a majority of the cases were decided against the strikers. Public opinion was divided. In some places the issue was carried into politics and figured in the electing of judges. In the thirties, when the trade-union movement was making rapid strides, there were again a number of prosecutions for conspiracy, with results favorable to the workers in some cases and unfavorable to them in others. There was little doubt respecting the laborers' right to combine. But the legality of some of their methods and purposes remained in dispute.

Before the middle of the nineteenth century our higher courts had established the doctrine that workingmen might peaceably combine to secure wages, reduce hours, or improve shop and other conditions of employment immediately affecting themselves. The legal status of the trade-union was no longer doubtful. But it must not be supposed that in the United States this freedom was or

is complete. Workmen might combine to secure higher wages, and might enforce their demands by striking, but in most jurisdictions they could not lawfully combine to secure the discharge of a non-union man, nor could they threaten in concert to quit dealings with a merchant unless he should refuse to buy goods from some manufacturer against whom these workmen or their friends were striking. Moreover, the movement towards complete freedom was blocked or delayed in the last quarter of the nineteenth century by the widespread adoption of anti-trust laws, prohibiting combinations in restraint of trade. Many of the customary activities of trade-unions, such as strikes to enforce the closed-shop rule, publication of "unfair lists," and the like, are regarded in some jurisdictions as restraints of trade. The anti-trust laws thus threw a cloud upon the entire trade-union movement. Finally the whole situation was complicated and embittered by a doubtful use of the injunction and by the uncertainty of the law itself. Statutes differ, and the interpretations of similar statutes by different courts are in hopeless conflict. This confusion constitutes in itself a grave social problem.

We have already recorded the simple solution of this problem reached in England: in labor disputes workmen or employers may lawfully do in combination whatever any employee or employer may lawfully do alone, and a trade-union may not be sued in tort, although it may be sued in contract. In this country legislative attempts to adopt the British solution have been checked by the courts except in a few states. A Massachusetts statute similar to the British law was declared unconstitutional on the significant grounds, *inter alia*, that state and federal constitutions prevent any person from being deprived of property without compensation or due process of law, that combinations of workmen are frequently used to prevent persons from obtaining work, and that no such combination can be legitimatized by mere statute law. The federal law on the subject, as expressed in the Clayton Anti-trust Act, is curiously equivocal. It contains a number of provisions which, construed simply and naturally, appear to declare that neither labor organizations nor their members shall be "held or construed to be illegal combinations or conspiracies in restraint of trade under the

anti-trust laws," and that in any case between employers and employees growing out of a dispute concerning terms or conditions of employment, a number of persons may lawfully do "any act or thing which might lawfully be done in the absence of such dispute by any party thereto."

These provisions of the Clayton Act were hailed by many representatives of labor on their adoption as the "Magna Charta of the American labor movement." On the other hand, the sponsors of this legislation plainly declared, when it was introduced and explained in the Congress, that it did not legalize the secondary boycott or go as far as the British law on the subject. The Supreme Court of the United States has taken the latter view, holding that under the Clayton Act the trade-union as such is suable for its acts and "that funds accumulated to be expended in conducting strikes are subject to execution in suits for torts committed by such unions in strikes"[2]; that sympathetic strikes and compound boycotts (possibly also primary boycotts) are contrary to federal law, that peaceful picketing is "a contradiction in terms"; "but that, subject to the primary right of the employer and his employees and would-be employees to free access to his premises without obstruction by violence, intimidation, annoyance, importunity, or dogging, it was lawful for ex-employees on a strike and their fellows in a labor union to have a single representative at each entrance to the plant of the employer to announce the strike and peaceably to persuade the employees and would-be employees to join them in it."[3] The labor provisions of the Clayton Act, and in particular sections 6 and 20, are worthy of examination as a consummate exhibition of legislative *double entendre*, but as expounded by the Supreme Court they do little more than declare "what had always been the law and the best practice in equity."[4]

The expediency of adopting in this country what has been called the "British solution" raises issues which are as interesting as they are grave. There is much to be said in its favor. The law of con-

[2] *United Mine Workers et al.* v. *Coronado Coal Co.*, 259 U. S. 344, 42 Sup. Ct., decided June 5, 1922.

[3] *Truax et al.* v. *Corrigan et al.*, 257 U. S. 312, 42 Sup. Ct. 124, decided Dec. 19, 1921.

[4] Language applied by Chief Justice Taft to the "picketing clauses" of the Clayton Act, in the case cited above.

spiracy as applied in American labor disputes is full of frail distinctions and practical contradictions. The British law is much simpler, yet, due perhaps to better police administration, the British labor movement has been more free from violence, intimidation, and coercion than the similar movement in this country. And as between employers and employees the American law is strikingly unequal. The closed shop has been condemned as coercion of non-unionists. Thus in the Hitchman case, the United States Supreme Court held that, where workmen had signed an agreement to the effect that they would not belong to a labor union, any subsequent effort made with the object of inducing them to join a union is illegal. In the Coppage case, however, the United States Supreme Court held unconstitutional a statute authorizing criminal penalties upon an employer who required employees to renounce union membership as a condition of employment. On the other hand, a New York Court refused,[5] in 1928, to protect certain employers in exacting promises from their workers to refrain from joining a union. Nevertheless, it has usually been held unlawful for union agents to attempt organization, even by peaceful persuasion, when employees have signed contracts not to join the union as a condition of remaining employed; yet, as a matter of practice, employers cannot easily be prevented from attempting to persuade other employers who have accepted the closed shop to abandon it. Employers can do this as they can use the sympathetic lockout and the black-list, even though the black-list has been declared unlawful in some states, because they can use them secretly. The president of a great corporation or a small board of directors can maintain a black-list or order a sympathetic lockout so quietly that it would be impossible to prove their nature or for exactly what purpose they were instituted. The trade-union, on the other hand, must act in practically open concert, after legislative action formally recorded, the nature and purpose of which can with difficulty be concealed.

It is a blot on the American law of conspiracy that a combination of workmen to boycott a third party (the so-called secondary boycott)[6] or to secure the discharge of a non-union employee is

[5] *Interborough Transit Co.* v. *William Green et al.*, 227 N. Y. Supp. 258.

[6] *Duplex Printing Press Co.* v. *Deering*, 254 U. S. 443, Supreme Court, 1921.

in most jurisdictions treated as unlawful, whereas an opposing corporation, representing in fact the combination of perhaps a larger number of stockholders and much capital, is regarded as a single entity and thus beyond the penalties of the law of conspiracy. The law should treat the combination of "capital" as it treats the combination of "labor."

On the other hand, there is little truth in the specious contention that a combination of workmen or employers has a "right" to do in concert what any individual may lawfully do as such. There is no such right, moral or legal, in this country. An individual not under contract may quit working for an employer or dealing with a merchant for any reason or no reason. Why, it is confidently asked, may groups of men not do the same? As a railway engineer may quit work practically when he likes, why should not the Brotherhood of Locomotive Engineers quit work as a body when it pleases the organization, and thus tie up the entire railway traffic of the country, for the purpose, say, of assisting the railway conductors of one district in refusing traffic from another district in which a strike has been declared?

These questions carry their own answer. Many acts which are either harmless or trivial when performed by an individual become highly injurious when swollen by concert and combination. A general strike or boycott for trivial or malicious ends cannot by logic-chopping be made anything else than impolitic and wrong. All this appears plain when we reverse the case and pass judgment upon what are practically the same acts when performed by employers. A sympathetic lockout, ordered against one innocent union, say of freight handlers, in order to prevent them from voting funds to assist the strike of a union of railway telegraphers, for instance, would bring general criticism against the employers who ordered it; but it is essentially the same in principle as the sympathetic strike. The black-list — which has almost no avowed friends — is in essence similar to the indirect boycott or strike to secure the discharge of a non-union man. The simple truth is that many things are dangerous when participated in by great numbers which are not so when performed by individuals.

A good deal may be said in favor of the reluctance of American

courts and legislatures to sanction all and every kind of peaceable labor combination, regardless of its motive or purpose. Many peaceable strikes and boycotts are in fact capricious, unjustifiable, and socially destructive, even in the judgment of disinterested persons sympathetic with the main purposes and tenets of organized labor. To legalize such strikes and boycotts would to many minds legitimize them socially and morally; and it is probably expedient to keep the law consistent with the practical morality of the situation. And this judgment is confirmed by the fact that of the labor combinations which are declared unlawful, probably ten are accompanied by intimidation or by acts which would be unlawful if performed by an individual, to one which is peacefully conducted along lines of purely economic pressure. On the other hand, it is vitally important that the law be equalized, that the courts be instructed to see a combination of employers when one exists in fact, and that the coercion and attempted destruction of property rights which inheres in threats to deprive workmen of their jobs or to smash their unions be placed on a par with the coercion and destruction of property rights which the courts find in peaceable sympathetic strikes and compound boycotts. Unless practical equality can be established on the basis of a sound social morality, there will be an unanswerable case for equalization through the adoption of the British solution.

Child Labor Laws. — The class of laws which we have been considering has been designed to relieve the laborer from legal disabilities, so that he may be enabled in combination with his fellows to help himself. Most modern labor laws, however, are of a different type. They assume that the welfare of labor is of peculiar importance to society and that the State is therefore warranted in protecting the wage-earning classes, openly and frankly. Perhaps the earliest and most typical legislation enacted in this spirit is the child labor law.

The problem of child labor is frequently misconstrued. The principal reason why children work today is not found in the needy widow, the abandoned wife, or the stony-hearted employer, although these and analogous reasons represent important causes of child labor. The principal causes of child labor are, at present,

the restlessness of the child, the failure of ordinary school training to hold his attention and arouse his ambition, and the ignorance or selfishness of parents. The evil consists, principally, in the fact that the child who goes to work early usually gets into a "blind alley" occupation, and is thus prevented from developing his full potential earning power. His ability to serve both himself and society is curtailed by his excessively early start. "The better occupation either will not receive the young child at all, or wants him with more schooling, or offers such a low initial wage that both child and parent turn to the mill, with its greater present wage opportunities." [7] The wage in the low-grade occupation is at first relatively high, but in three or four years the boy has reached his maximum earning capacity, and early marriage fastens him to the job. The boy who begins at sixteen years or later soon catches his less fortunate brother, and in a comparatively few years is earning a superior wage. As a foundation for real promotion and advancement the work which children between fourteen and sixteen years of age do has usually little value.

It is thus plain that the problem of child labor is positive and constructive, not merely negative. It avails little to prohibit children from working at this or that; agencies must be provided helpfully to guide their activities. Already the most advanced states have incorporated in their laws a provision requiring employers of child labor to give the children a specified amount of vocational training, or time to secure such training, in institutions provided by the state. More important still, agencies are being established to determine by physical and psychological tests whether children who have completed the required schooling are really fitted to enter industry, and what kinds of work they are best fitted to undertake. The beginnings are tentative and the work difficult. But the period draws to an end in which ignorant children drift or are pushed by ignorant parents into the work which lies nearest at hand; and the time approaches when the most careful thought will be given to the selection of one's life work and the training for it.

[7] Susan M. Kingsbury, "The Relation of Children to the Industries," in *Report of Massachusetts Commission on Industrial and Technical Education*, p. 44.

Child labor laws differ materially in the different states, thus placing at a competitive disadvantage employers resident in the states adopting the higher standards. The federal Congress has made two attempts to equalize the situation. In 1916 a federal statute was passed debarring from interstate commerce goods produced in factories which employed children under fourteen years of age, or which employed children between fourteen and sixteen years of age more than eight hours in any day or more than six days in any week, or after the hour of 7 P.M., or before the hour of 8 A.M. In 1919 a federal excise tax of 10 per cent was laid upon the income of any manufacturer who employed child labor under conditions or limitations similar to those named in the earlier statute. The Supreme Court of the United States, however, has declared both acts void as "dealing with subjects not intrusted to Congress but left or committed by the supreme law of the land to the control of the States." "We cannot avoid the duty [of declaring such attempts void]" the Court continues, "even though it require us to refuse to give effect to legislation designed to promote the highest good. The good sought in unconstitutional legislation is an insidious feature because it leads citizens and legislators of good purpose to promote it without thought of the serious breach it will make on the ark of our covenant or the harm which will come from breaking down recognized standards. In the maintenance of local self-government, on the one hand, and the national power, on the other, our country has been able to endure and prosper for near a century and a half." [8]

A good state child labor law, it is now generally conceded, should prohibit the employment of all children under fourteen, and of all children under a higher age limit who are undersized, weakly, or illiterate. "Young persons" who are deficient in the fundamental requirements of an American education should be compelled, where possible, to attend a continuation school. Work in "immoral" or dangerous occupations, at night, or in excess of eight hours per day should be forbidden for all children under the higher age limit.

In 1929, all of the forty-eight states, with the exception of Georgia,

[8] *Bailey* v. *The Drexel Furniture Co.*, 259 U. S. 20, 42 Sup. Ct. 449, decided May 15, 1922. For the earlier decision, see *Hammer* v. *Dagenhart*, 247 U. S. 251.

where a ten hour working day is the legal maximum for all males and females, had some form of legal restriction on the hours of labor of minors. In the District of Columbia an act of Congress, passed in 1928, forbade the employment of any minor under 18 for more than forty-eight hours a week. This law ranks among the most advanced. In New Hampshire, on the other hand, the law merely prohibits the employment of minors under the age of 16, in any gainful occupation, *for more than ten and a quarter hours a day.*[9] Such a law would appear to allow any modern employer more latitude than he could wish for.

The successful enforcement of child-labor laws has been found difficult. Birth or baptismal certificates, or other similar evidences of age, have to be procured from parents; certificates of attendance and proficiency from school authorities; examinations of health and educational requirements must be made; and employers required to demand, file, and return employment certificates. The community must maintain and properly support factory inspectors and health and school attendance officers in adequate numbers, with power to prosecute violations of the law and with secure tenure of office. The community should further provide for dependent families which need the earnings of their children, keep birth records, and maintain schools fitted to hold the attention of the child and properly train him for his life work. "The best child labor law is a compulsory school law covering forty weeks in the year and requiring the attendance of all children under fourteen years of age." [10]

The Labor of Women. — The employment of women is not in itself a problem which calls for legislation. The evil consists in working under conditions which undermine health and morals, or for inadequate wages. It is impossible to describe here in detail the various laws which have been passed relating to the conditions of labor of women. Women are subject to the "factory acts" relating to sanitation, safety, and occupational diseases, and to general statutes regulating production in tenement houses and the

[9] *Monthly Labor Review* (February, 1929), Vol. 28, No. 2, pp. 73–75.

[10] Cf. Florence Kelley, *Some Ethical Gains through Labor Legislation* (The Macmillan Co., New York, 1905), pp. 98, 99, and *passim.*

time, frequency, and character of wage payments. In the more advanced states also, the labor of women in manufacturing, mechanical, and mercantile establishments is likely to be safeguarded by laws limiting the hours of labor, prohibiting night work, and continuous employment for more than six hours, for example, without an interval for meals; providing and permitting the use of suitable seats; requiring separate and sanitary toilet facilities; prohibiting the employment (knowingly) of women within two weeks before or four weeks after childbirth; and — in Massachusetts for example — directing local authorities to furnish responsible mothers having dependent children sufficient aid " to enable the mothers to bring up their children properly in their own homes."

Until recent years, regulations similar to the above represented the extreme limit to which any American state had gone in the protection of women. And even the constitutionality of such regulation was in grave doubt, for an important statute limiting the hours of labor had been declared unconstitutional by the highest court in Illinois, and in New York a statute prohibiting night work had been similarly annulled, on the general grounds that they infringed the freedom of contract and were " unduly discriminatory between citizens," the court remarking (in the New York decision) " that woman is no more the ward of the state than is man." But under the leadership of the Supreme Court of the United States, both of the state courts in question reversed these decisions in regard to hours of labor and night work and sanctioned similar laws as reasonable health regulations, looking not only to the protection of the individual woman but to the " strength and vigor of the race." [11]

Minimum-Wage Laws for Women. — In fifteen of the states and in the District of Columbia minimum-wage laws have been passed, with the general object of requiring that wages paid in certain occupations shall not be so low that women " cannot support themselves in a proper and healthful manner." [12]

Minimum-wage laws were first adopted by the Australian state of Victoria in 1896 to regulate wages and other conditions of labor

[11] *Monthly Labor Review*, Vol. 28, p. 62.

[12] *The Development of Minimum-Wage Laws in the United States, 1912–1927* (Bulletin of the Women's Bureau, No. 61, Government Printing Office, Washington, D. C., 1928), p. 7.

in the "sweated trades." Trades or industries in which wages are particularly low are usually singled out by legislation, though in Victoria the government may apply the system to additional trades by administrative order. These wage boards are designed to induce compulsory collective bargaining, in which the state participates by compelling employers and employees to fix standard conditions of employment. In England and this country the legislation is as yet much more tentative and restricted. "The outstanding characteristics of the American minimum wage legislation compared with that of England, Australia, and New Zealand are these: The first is its omission of men; the second is its reference to the welfare of the people as a whole; the third, which is responsible for both the others, is its subordination to the courts on the grounds of constitutionality, entailing the practice of placing upon American states the burden of proof that they are acting within their police powers when they create such wage commissions and wage boards or conferences."[13] Some of the American laws, it may be added, make no provisions for joint wage boards of the Australasian type, but provide that the minimum wage shall be fixed directly by a state labor or industrial commission.

The movement for instituting a minimum wage for women found practical expression in this country in 1912 and 1913, when Massachusetts and Michigan appropriated money for a special investigation of the conditions under which women wage-earners worked and lived. The results of the investigations were such that Massachusetts, without delay, passed a minimum-wage law for women. Other states followed the example, but the question of constitutionality was soon raised. Laws applicable to the District of Columbia, Arkansas, and Arizona were declared unconstitutional by the United States Supreme Court; and the supreme courts of Kansas and Porto Rico took a similar position with regard to minimum-wage laws applicable to those jurisdictions.

The close of the period (1912 to 1927) sees minimum-wage legislation not only nullified in several States by the attacks upon it but subject elsewhere to constant pressure that has influenced the actual powers and duties specified in

[13] Article by Florence Kelley, in *The Survey*, Vol. XXXIII, p. 487.

the laws and the way in which those powers and duties have been carried out from day to day.[14]

Thus, in some of the states where the minimum-wage law is still on the statute books, it is now a dead letter. In Colorado the law has never been put into operation, the issuance of a decree being a necessary preliminary and one never fulfilled. In Nebraska and Texas the laws have been repealed by the Legislature. It must be admitted that the difficulties surrounding the experiment have not yet been overcome. Where minimum-wage orders have been effective, however, they have very perceptibly raised the rates of pay for women, as was shown by the report drawn up by the Women's Bureau in 1927.

The economic argument for the minimum wage starts with the fact that in many trades the majority of women workers do not receive enough wages to maintain their physical efficiency. Of these sub-standard wage workers a large number are partially supported by other members of the family, a considerable number are assisted by charity, a few eke out their living by intermittent or regular prostitution, and some "actually die of under-nutrition and worry."[15] The work as a rule is simple and the supply of labor excessive. Usually there is no labor organization. The workers are weak and the wage is fixed by individual bargaining. The tendency towards a uniform or standard wage in many of these trades seems to have been checked by the absence of labor organization, and competing establishments in the same industry frequently pay very different wages for the same grade of labor.

The proposal is to establish for wages a minimum standard analogous to the standards of safety and sanitation now generally imposed upon industry by law. If a minimum standard of safety and sanitation is imposed upon industry by law, why should not legislation prohibit the payment of wages so inadequate as to lead indirectly to even worse evils than exposure to accident or disease? That the establishment of a minimum wage might force a certain number of incompetent workers out of employment is

[14] *The Development of Minimum-Wage Laws in the United States, 1912–1927*, p. 5.

[15] H. R. Seager, "The Theory of the Minimum Wage," *American Labor Legislation Review* (February, 1913), Vol. III, No. 1, p. 84.

recognized. But that society should be forced openly and frankly to deal with its incompetent workers is regarded as an advantage. It is further expected that such legislation in some instances will result in increased prices. But the consumer is expected to bear his fair share in supporting those who supply his needs; and both *a priori* analysis and experience make it probable that the rise in wages would not be accompanied by a *corresponding* rise in prices. It is recognized also that such legislation may increase expenses of production in some industries. But it is held that trades which pay less than a living wage are "parasitic"; that they constitute a positive drain upon society at large; and that any measures necessary to place these trades on a self-supporting basis are both justifiable and economically helpful. However, it is believed that in most such trades the necessity of paying standard wages would not "scrap the industry," but would compel a larger use of machinery, and by focusing competition upon the quality and efficiency of the workers would eventually result in lower rather than higher expenses of production.

Most of these arguments could be applied to men as well as to women. For this reason, among several others, the Woman's Party in America strenuously opposes any special labor legislation for women.[16] Such a position, however, is not generally accepted by those interested in the welfare of the public.

The minimum-wage law has now been tested long enough and on a scale sufficiently extensive to warrant the conclusion that it is, or may be if slowly introduced and carefully administered, a practical success. In Victoria the legislation, which was at first doubtfully applied to six trades, has now been made applicable to nearly all of the important occupations in trade and industry, including certain classes of agricultural workers. Vigorously opposed by the employers on its introduction, it seems, from reports of disinterested investigators, to have established itself on a firm foundation. There is opposition to details of the law and vigorous criticism of the way in which it is administered; but from all that can be learned those who desire to do away with this system of

[16] See E. E. Witte, "The Effects of Special Labor Legislation for Women," *Quarterly Journal of Economics* (November, 1927), Vol. XLII, pp. 153–164.

regulation constitute a small minority. In England and in the United States the results are, on the whole, favorable. Nothing revolutionary has been accomplished, but the system has demonstrated that it is practicable, even in highly complicated trades; that while the legal minima have been evaded in a few instances, it has on the whole appreciably raised wages without seriously disturbing prices; that it does not undermine trade-unionism, but mildly stimulates organization among workers, who need organized effort to better themselves; that it compels serious study and public investigation of trades which need both; that it does not drive industry out of existence, nor deaden incentive. The minimum wage has not become the maximum, nor has the operation of the system resulted "in wholesale dismissals of old and slow workers," although there is evidence that in England, at least, it has tended to increase the amount of unemployment accompanying a period of declining prices and business depression. In short, while it may have accomplished less good than its more sanguine advocates expected, it has done less harm than its opponents prophesied.

So far as economic theory is concerned, there is no reason to believe the minimum-wage proposition wholly unsound. Without regulation much of the competitive fight centers about the mere money wage. A poor workman may be more profitable to the employer than a skilled workman, provided the poor workman can be secured for a small enough fraction of the wage it would be necessary to pay to the skilled workman. Establish a dead line — or better, a health line — and the emphasis will be placed upon efficiency instead of cheapness. Wage-earners will have to meet higher and better standards. The competitive struggle will thus operate to evoke efficient rather than low-paid workmen. And the higher cost of labor will help to force the introduction of better machinery and better methods of organization and employment.

Obviously, not all the claims made for this system will bear scientific scrutiny. There is, for instance, probably more error than truth in the contention that every industry which pays its women and minor workers less than a living wage is a detriment

rather than a help, an industrial parasite sapping the economic strength of a community. Until a far better distribution of the labor force has been secured, there will continue to be in all probability a surplus of workers who cannot earn a living wage and yet had better earn a supplementary wage than be idle. There were in 1920, for instance, in this country approximately two million females between the ages of 16 and 21, inclusive, engaged in gainful occupations. Young women might possibly better spend these years in training for their life work, including housekeeping, and the difficult vocation of marriage. But until adequate provision for such training is made, young women of this age had better be employed at wages which will tend to make the family income more adequate than not to be employed at all. And if a universal minimum-wage law, applicable to men, women, and children, were suddenly introduced, it would almost certainly break down. After all, however, such considerations do not invalidate the theory upon which the minimum-wage program rests.

Factory Acts. — Constitutional guarantees, particularly that of free contract, prevent in this country the general regulation of the labor of adult men, but under the police power the states have the right, indeed in the language of the Supreme Court, "it is among their plain duties," to regulate the physical conditions of employment so that accidents and occupational diseases may be minimized. These regulations, frequently referred to as factory acts, are typified by the familiar laws requiring proper fire escapes, the removal of dust or noxious vapors by fans, the placing of guards about dangerous machinery, the installation of mechanical belt shifters, and connection by bells or tubes between rooms in which machinery is used and the engine room. Such laws have now been adopted in most of the states, but their enforcement in many states has been very ineffective. And even where factory inspection is provided, it has too frequently been half-hearted, inexpert, and emasculated by political interference. In one state, "where the chief factory inspector divides his time between conducting a livery stable he owns and the business of caring for some 30,000 factory wage-earners, I found him contributing a remarkably concise annual report of exactly fourteen words. It reads, under date of July 1, as fol-

lows: 'I have visited the same factories as last year and find conditions the same.'" [17]

While politics and administrative ineptitude have seriously crippled factory regulation in this country, the truth is that until recent years there were few real experts procurable in this field. In the last few years, however, great improvement has been made both in the laws and their administration. Wisconsin, Massachusetts, New York, and other states have gone far towards solving the administrative problem by placing appointments on the civil-service basis and consolidating powers previously lodged with police, factory inspectors, and health commissioners into one industrial or labor commission, with general power to enforce the rules necessary to provide reasonable sanitation and safety. In this way the necessary elasticity of rule and standard has been secured; and in adopting rules or standards the coöperation of employers and labor organizations has been secured, thus insuring more practical rules and the good will of those to whom these rules apply. Regulation by the state can never become effective until the responsible administrative head is given sufficient discretion nicely to adapt regulations to the subtle complexities of modern industry. With employers, employees, and factory inspectors working together under practicable regulations in whose formulation all three have coöperated, rapid progress has recently been made not only in factory and mercantile inspection, but in the methods of compensating for industrial accidents.

Employers' Liability. — Under the common law of employers' liability, the employer is under obligation to provide his workmen with a reasonably safe place in which to work, with reasonably safe machinery, and with reasonably prudent and competent fellow workmen; and the employer is liable in damages for any accident to his workmen resulting from failure to display this ordinary prudence and care, as well as from similar failure or negligence of any superintendent, overseer, or vice principal authorized to issue orders in his name. When the employer has observed the ordinary precautions of a reasonably prudent man, however, the employee

[17] E. F. Brown, "The Efficiency of Present Factory Inspection Machinery in the United States," *American Labor Legislation Review*, Vol. III, No. 1, pp. 27–28.

assumes all the hazards incident to the employment or arising from the negligence of fellow servants; and even though the employer is negligent, the employee cannot recover damages for an accident if the employee was aware of the employer's negligence and voluntarily accepted the risk, or if the employee has been guilty of additional or contributory negligence.

This, in bare outline, is the common-law foundation of the doctrine of employers' liability. It has been modified incessantly by statute law and by changing interpretation of the courts; it is vague, uncertain, and legalistic in the worst sense. Under it not more than 10 per cent of the victims of industrial accidents received any compensation, and of the damages paid by employers the victims received on the average probably less than 50 per cent. The rest went for court costs and lawyers' fees. A class of professional accident attorneys, "ambulance chasers," who exploited industrial accidents for their own rather than the victims' benefit, appeared in most industrial centers; ignorant juries decided on the difficult facts in the most capricious ways, now refusing relief in deserving cases, again voting excessive damages for trivial or perhaps simulated injuries; the cases filled the courts; decisions turned upon hair-splitting distinctions and metaphysical niceties; the humane employer, the conscientious lawyer, the far-sighted judge, workingmen, and the general public became, it is hardly too much to say, disgusted with the inapplicability and bungling unsuitability of the doctrine of employers' liability properly to deal with the grave social problem arising from industrial accidents.

Attempts to solve this problem, as stated above, first took the form of incessant amendment of the old law. The fellow-servant doctrine (that the employer was not responsible for accidents arising from the negligence of co-employees as distinguished from vice principals) was curtailed in some states by confining "fellow servants" to those employed in coördinate occupations immediately associated with the victim, and the employer's defenses of "assumption of risk" and "contributory negligence" were limited and in some jurisdictions almost abolished. But the truth is that the whole social philosophy underlying the law of employers' liability was mistaken, "not so much unjust as wholly inapplicable." It

misconceived the nature of the social problem involved and offered remedies that were wholly ineffectual. It attempted — so far as one can discover behind it any real rational philosophy — to single out those accidents for which the employer was to blame and to compensate workmen in accordance with the damage resulting from the employer's negligence. Investigation shows, however, that the employer is responsible for only a minority of the accidents which occur. The victim himself, his fellow workers, and, most important of all, the occupational risk itself are responsible for the great majority of accidents. But the victim's need and that of his family are just as great when the accident results from the victim's negligence as when it results from the employer's negligence. It is not a question of individual fault and punishment for that fault; it is a question of industrial or social loss and insurance against that loss. The government should of course compel both employers and employees to take every reasonable precaution against accident, by unequivocal law or administrative order. But even if this were accomplished, there would still remain a large number of industrial accidents which if not compensated for would lead to poverty, unemployment, and the suffering of innocent women and children.

That the burden of industrial accidents should be borne by the industry itself or the consumer and not wholly by the laborer or his family is now very generally recognized. By January, 1929, forty-three states had adopted Workmen's Compensation Laws,[18] the states not having accepted such legislation being North and South Carolina, Mississippi, Arkansas, and Florida. In July, 1929, however, a Workmen's Compensation Act went into force in North Carolina. This new legislation has worked well; not perfectly, but with much more certainty and with far less operating cost than the old laws. Defects naturally exist in the new system. The usual compensation is too low to indemnify the victim and his family adequately for the loss resulting from the accident; the limitation of payments for permanent disability to a given period of time has been recognized as illogical and abandoned in several states, including North Dakota and Ohio, though many of the

[18] *Monthly Labor Review* (April, 1929), Vol. 28, No. 4, p. 99.

laws still contain provisions limiting payments for total permanent disability to periods varying from 260 to 1000 weeks.

Unemployment. — Modern industry apparently requires a great surplus reserve of unemployed. How large this surplus is we do not know with certainty, but it would probably be an understatement to say that, on the average, approximately one tenth of the wage-earners of this country are out of work from causes other than disability or labor disputes. It is particularly difficult to estimate the number of unemployed in the United States, where adequate continuous registration of the unemployed does not exist. Measures of unemployment are at present generally determined from the statistics of employment. From such measurements it would seem that a slight increase in the proportion of unemployed has taken place in this country during the years 1910–1928. The table on page 682 (XLI) shows the percentage of the population in full employment during this period. It was assumed that for the years 1910, 1912, 1917, 1920, 1923, and 1926 no unemployment existed, which is, of course, not strictly accurate.

Whatever the extent of this evil, students of social conditions are agreed that unemployment is exceptionally demoralizing. Inability to find work does not spur the sufferer to greater activity or arouse in him a resolve to make himself more efficient; it disheartens him and cultivates the habit of idleness. And it involves a loss to employers, the magnitude of which is only beginning to be appreciated.

Labor turnover is costly. In 1920 the average turnover in manufacturing establishments in the United States was 123%, while in 1928 it was 37%. Conservatively assuming the cost of each termination was $50, the loss to American industry with its nine million factory wage earners was over $550,000,000 in 1920 and approximately $165,000,000 in 1928. To these figures must be added the cost of turnover among officers and salaried employees.

Labor turnover records furthermore can reveal sources of waste other than the cost of labor turnover. Improper human relations often slow down production and make for inferior quality, excess spoilage of materials, and depreciation of equipment. Experience proves that a study of the causes of turnover will expose many sources of waste hitherto concealed.[19]

[19] *Turnover Talks.* A Memorandum Relating to the National Index of Labor Turnover. The Industrial Relations Service, Metropolitan Life Insurance Company (New York, April 11, 1929), Vol. 11, No. 4.

TABLE XLI

UNEMPLOYMENT SHOWN AS THE DIFFERENCE BETWEEN PROBABLE MAXIMUM EMPLOYMENT AND ACTUAL EMPLOYMENT [20]

(In Thousands)

YEAR	UNITED STATES POPULATION	FULL EMPLOYMENT [a]		ACTUAL EMPLOYMENT	UNEMPLOYMENT
		Per Cent	Number		
1910 [b]	92,267	41.5	38,167	38,167	—
1911	93,628	41.5	38,856	38,360	496
1912 [b]	95,097	41.5	39,445	39,445	—
1913	96,512	41.6	40,149	39,882	267
1914	97,928	41.7	40,875	38,848	2,027
1915	99,343	41.9	41,585	40,106	1,479
1916	100,758	42.0	42,318	42,206	112
1917 [b]	102,173	42.1	43,016	43,016	—
1918	103,588	41.5	42,989	42,931	58
1919	105,003	40.8	42,841	42,766	75
1920 [b]	106,422	40.2	42,809	42,809	—
1921	108,445	39.8	43,161	39,508	3,653
1922	109,893	39.3	43,189	40,622	2,567
1923 [b]	111,693	38.8	43,284	43,284	—
1924	113,727	38.0	43,216	41,826	1,390
1925	115,378	37.1	42,805	42,418	387
1926 [b]	117,136	36.2	42,433	42,433	—
1927	118,628	36.2	42,943	41,477	1,466
1928 (March)	120,013	36.2	43,445	40,813	2,632

[a] The percentage of total population employed was computed for the years of full employment, and percentages for intervening years interpolated on a straight line and used in computing full employment for those years.

[b] Assumed to be years of full employment owing to the high level of business as shown by the Brookmire Business Index.

The development in this field illustrates the course which must frequently be taken in attempts to assist by legislation in the eradication of a deep-rooted economic evil. It would be futile to attempt directly to legislate unemployment out of existence. The problem must be attacked piecemeal. First of all the unemployed

[20] Adapted from the table drawn up by the Brookmire Economic Service. See President's Conference on Unemployment. Report of the Committee on *Recent Economic Changes* (The McGraw-Hill Book Co., New York, 1929), Vol. II, p. 468.

men must be brought into contact with the unfilled job. To establish this connection, employment agencies have been instituted in many cities by charitable organizations, trade-unions, or employers. Next it was realized that the private employment agencies are inadequate and frequently attended in their operation by a number of distinct abuses: conditions of work are misrepresented, extortionate fees are charged, and foremen are occasionally induced to discharge employees in order that additional fees may be secured from new applicants for the vacant jobs. To cure these evils, restrictive laws have been passed in a majority of the states, which usually require a license and the posting of a bond in order that the work of these private agencies may be kept under public control. The constitutional validity of the public control of private employment agencies had seldom been questioned until May, 1928, when the United States Supreme Court declared unconstitutional the fee fixing provision of the New Jersey private employment agency law.[21]

It became apparent, too, that the problem is a positive one, not to be solved by restricting or regulating private agencies, and now nearly one half of the states and a number of cities have established public employment offices, frequently with a number of branches. In 1915 the federal government expanded a service, originally introduced in 1907 to place immigrants on farms, into a national Employment Service. During the war this service developed with great rapidity, and between January, 1918 and March, 1919, it received "applications for no fewer than 10,164,000 workers, registered 5,323,509 persons, referred 4,906,556 to positions, and reported 3,776,750 positions filled. Far-reaching dependence of employers on the service began on August 1, 1918, when by presidential proclamation all employers engaged in war work who employed more than 100 persons were required to hire their unskilled laborers through the service."[22] After the war, the National Employment Service was in large part discontinued for lack of appropriations. It has functioned, in recent years, chiefly

[21] *Ribnik* v. *McBride*, 48 Sup. Ct. 545. See also the *American Labor Legislation Review* (September, 1928), Vol. XVIII, No. 3, p. 279.

[22] J. R. Commons and J. B. Andrews, *Principles of Labor Legislation* (Harper and Brothers, New York, 1927. Revised ed.), p. 329.

as "a coördinating and promotive agency for the various state and municipal offices."[23] Great Britain maintains an elaborate network of public employment offices which in some years have filled over 1,500,000 vacancies. Similar legislation exists in Belgium, Switzerland, Denmark, Norway, and Sweden.

All this is but a beginning. Eventually more fundamental measures will have to be taken, of which, however, a chain of public employment offices furnishes the necessary foundation. These measures include the long-range planning of public work; early ordering, manufacturing ahead, addition of supplementary lines, adoption of devices to protect against weather, and other methods of regularization, in private industry; the dovetailing of one seasonal trade with another of a different season; the coöperation of charitable organizations with the employment agencies in taking care of the unemployable, and, in short, the use of any or all feasible methods of eliminating seasonal and cyclical fluctuations. Some plan of unemployment insurance may have to be added, to protect wage earners against the inevitable residue of unemployment which will occur in any industrial system, however effectively organized.

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[23] Commons and Andrews, *op.cit.*, p. 330. "The service, in its expanded form, was entirely a creation of the war emergency."

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CHAPTER XXXII

LABOR PROBLEMS

Types of Labor Organizations. — There are at least four distinct types of labor organizations: the *Trade Union*, representing a combination of wage-earners in a single trade or two or three closely related trades; the *Industrial Union*, composed of all kinds of wage earners working in a given industry; the mixed *Labor Union*, made up of wage-earners from many trades and many industries; and the "*Company Union.*" Thus, the Brotherhood of Locomotive Engineers, strictly a trade union, makes no attempt to include other workers in the railway service; the United Mine Workers, however, an industrial union, attempts to combine all persons working in and around the mines; while the Knights of Labor, in the period of its strength and prosperity, fused all sorts and conditions of workers in some of its district assemblies, and combined these assemblies in a closely knit, highly centralized national labor union. "Company Union" is a term applied to various forms of employee's representation plans, the distinguishing feature of which is that all members of the organization are members of a single plant or company, such as the International Harvester Company.

The difference in the structure of labor organizations colors their policies and gives rise to important problems. The trade and industrial unions are, as we should expect, much more homogeneous, and therefore much more efficient than the labor unions, but they are likely to be narrower in their aims and more selfish in their policies. The labor unions, on the other hand, have in the past proved much less efficient, much more unwieldy, and much more disposed to make use of coöperation, political action, and other devices which are not suited to associations of wage-earners, or at least not easily handled by them.

In recent years, we have seen the rapid rise of industrial unionism. The industrial union, or some adaptation of the principle thereof, bids fair to supplant the trade or craft union in many industries. Industrial unionism is gaining rapidly for a number of reasons. The increasing subdivision of labor in many industries is destroying the basis of trade unionism. The industrial union presents a way of overcoming jurisdictional disputes between trade unions in the same industry and makes possible a greater unity of action. Its great effectiveness in carrying on a strike is gaining favor for the industrial union, especially among the less skilled workers.

For the larger and more general objects, common to wage workers as a body, many of the American unions have combined in a large, loosely knit confederacy, known as the American Federation of Labor. The local unions of most of the important trades have organized into national or international unions. The American Federation of Labor is first of all a federation of national industrial or trade unions but also includes local trade and federal labor unions,[1] state federations of labor, city central bodies, and the "departments." Of the latter, there are four organized at the present time: the metal trades, building trades, railway employees, and union-label trades. The department makes possible the closer alliance of trade and industrial unions in the same or closely related industrial fields. In this way it is found possible to secure some of the advantages of the industrial union without giving up the trade or craft union basis of organization. The American Federation of Labor interferes just as little as possible with the constituent unions, and confines its activity to securing favorable labor laws, organizing federal trade or labor unions in districts of the country in which trade unions have heretofore failed to get a start, rendering assistance to unions which are hard pushed in strikes or disputes with employers, encouraging the use of union-label goods, and, in short, furthering all those interests which labor organizations have in common. The city and state federations of labor are intended

[1] A union without any national organization is termed a Federal Trade Local or a Federal Labor Union, — a trade union if including workers of one craft, a labor union if having a mixed membership.

to serve similar purposes for the organized groups of the American Federation of Labor in the cities and states.

The membership of the American Federation of Labor fluctuates rather unduly with changing economic conditions. In 1920 the number of members paying dues slightly exceeded four millions, but it declined to 2,878,297 in 1925. The recent trend has been upward and since 1926 a membership considerably in excess of three millions has been reported.

Not all labor organizations are affiliated with the American Federation of Labor. Prominent among those which are not included are the Amalgamated Clothing Workers of America, the Brotherhoods of Railway Conductors, Engineers, Firemen, and Trainmen, and the Industrial Workers of the World.

These organizations, it is estimated, have a membership of about 600,000, of which some 500,000 members are credited to the four railway brotherhoods. At least two thirds of all organized labor, therefore, may be regarded as affiliated with the American Federation of Labor. While it is true that organized labor represents but a minority of the total labor group, these total figures do not show certain sources of strength in the organized labor movement which should be noted. In trade, clerical occupations, professional service, and public service, it is true, the proportion of labor organized is very small; but in such essential and key activities as transport, mining, building trades, and clothing a high degree of organization has been attained. And within these important branches of economic activity certain indispensable trades are highly organized. Locomotive engineers, for example, are almost completely organized, and one out of every two brick and stone masons is a union man. Thus through a high degree of organization of key trades in basic and essential industries, unions attain a much greater degree of strength than is suggested by the figures of membership.

Company Unions. — The "Company Union," the term applied by trade-unionists to all forms of employee representation through shop committees, works councils or industrial assemblies, is a fairly recent development in the relations between employer and employed in this country. Company Unions are usually initiated by the employer rather than by the employee, and the former

shares the expense of the scheme. The committees are frequently "joint," in the sense that they include employers' representatives, as well as employees' representatives. Only a few shop committees were in existence at the outbreak of the World War, one of the most important being the Philadelphia Rapid Transit Plan, established in 1911 for the adjustment of differences and the improvement of the service. The predecessor of the type of Company Union particularly denounced by trade-unionists is, however, to be found in the works committees set up during the War under the direction of the National War Labor Board. These joint committees were introduced with a view to speeding up production in war-time and in the interests of industrial peace. The employees' committees played a large part in increasing output during the War. Thus the plan was satisfactory to many employers, though not to most of the existing labor organizations, who feared the competition of the Company Union and its effect upon the trade-union movement. When peace was resumed, the Company Union, far from being abandoned, tended for a time to increase in numbers. In 1919 there were approximately 145 shop committees, representing 403,765 workers; in 1926 the shop committees numbered about 432, representing 1,369,078 workers.[2]

The functions of these committees are, primarily, the adjustment of grievances, the regulation of working conditions, and the promotion of factory efficiency. The development of this type of organization has been greatest in large-scale industry, more than half of the total number of the employees covered by the Company Unions being employed in establishments with over 15,000 workers each. The ultimate effect of these organizations on the trade-union movement in this country is still uncertain. For a time there seemed to be no doubt that they were sapping the strength of the older type of labor organization.

Whatever the reasons or motives leading the workers into the company associations there can be no doubt that they have had a marked effect upon the American labor movement. First, they have gained hundreds of thousands of members, as a matter of fact about the same number of members as the regular

[2] President's Conference on Unemployment (Herbert Hoover, Chairman). Report of the Committee on *Recent Economic Changes* (The McGraw-Hill Book Co., New York, 1929), Vol. II, p. 530.

trade unions have lost since the war-time peak. Secondly, they have raised obstacles to organization in the unorganized industries. For these company unions are made to settle just enough of the workers' secondary grievances to satisfy many of them in a superficial way, and render them less ready to listen to the appeal of the trade union. . . .[3]

One of the most important effects of the Company Unions, which have usually been associated with Employees Mutual Benefit Associations, has been to influence the labor unions in the direction of expanding their own welfare activities, in the face of this competition on the part of the employers, and of depending less upon strikes as a means of improving labor conditions.

The Economic Justification of Labor Organizations. — The question is often asked why labor organizations are necessary, in view of the fact that wages are fixed, at least within broad limits, by deep-lying economic and social forces which the labor organization cannot effectively control. If wages depend upon demand and supply, it is said, what excuse for the troublesome and irritating trade union?

The answer is in part that economic laws work themselves out through men and through organizations — they are not self-enforcing. We have had labor organizations of one kind or another ever since the wage system existed, and we shall unquestionably continue to have such organizations unless the wage system is superseded by something more satisfactory.

Even if we should grant that labor is in essentials a commodity whose price is fixed by demand and supply, there would still be a reason for the labor organization. The supply of labor is largely controlled, in the long run, as we have seen, by the standard of life; and one of the great functions of the labor organization is to strengthen and advance the standard of life. If a great horde of unorganized and unsympathetic wage-earners are continually bidding against one another in the labor market, each individual endeavoring to get a little more work by offering to take a little less pay, the standard of living will be subtly undermined, "nibbled away," as a well-known writer has expressed it. The labor organization,

[3] H. W. Laidler and Norman Thomas (ed.), *New Tactics in Social Conflict* (Vanguard Press, New York, 1926), p. 108.

by repressing the vicious activity of this competition, by compelling its members to offer the same terms and abide by common or standard rules, bulwarks the standard of life, and gives it increased precision, increased power and durability.

The most important legitimate function of the labor organization is to equalize the bargaining power of labor and capital. The unorganized laborers, because of the nature of the labor supply and their lack of bargaining skill, are at a great disadvantage when they meet with the skilled manager of great combinations of capital. Current economic doctrine recognizes that the distribution of a considerable share of the product of industry is determined by the process of bargaining. In an advancing or progressive state of industry, there is generally a margin between what the employer could pay and what the laborer receives. By stout resistance and skillful bargaining it is often possible for the wage worker to get a part of that share of the product which would otherwise go to the employer as profits. Of course, that labor organization is likely to be most successful in the long run which increases the productivity of its members. But even if the organization does not increase the productivity of its members, it has a chance to improve their wages by trenching upon profits. Mere bargaining, therefore, despite the operation of more fundamental economic forces, is still exceedingly important. And the unorganized wage workers, being poor bargainers, combine with their fellow-workmen, not only to maintain a more uniform price for their labor, but in order to procure the guidance and assistance of an expert bargainer — the business agent or walking delegate. The labor organization is thus a commercial institution for the sale of labor in large quantities; its primary function is collective bargaining.

Labor Organizations and Monopoly. — It is plain that the labor organization as a wholesale jobber of labor is essentially a product of those familiar economic forces making for large-scale commercial dealings; it is brother to the trust, akin to the combination, and thus not untainted with monopoly. One of the most searching criticisms directed against the labor organization is that it exhibits all the evil tendencies of monopoly. The charge has some elements of truth. The ultimate aim of the average labor organiza-

tion is to induce every worker in the industry to join the union, so that by monopolizing the supply of labor it may control the price. But in one of its implications the charge of monopoly is misleading, because the great majority of unions do not attempt to limit the number of their beneficiaries. They aim to increase wages, but they are willing and even anxious that every member of the craft should share the increase. It is rare for a labor organization to exclude from its ranks a number of workers and then persecute them by refusing to work with them or treating them as "scabs." Conflicts with non-union men are common, but in a very large majority of cases every effort has been made to get these men into the union. An organization which is constantly exhorting its competitors to come into the combination and share its benefits is at most an *inclusive monopoly*, and is not to be confused with the *exclusive monopolies* found in the field of business.

Methods and Policies of Labor Organizations. — The aims of labor organizations and the policies employed to achieve their ends vary in accordance with the conditions of the occupation or industry in which their members work. Some unions, for instance, have laid great emphasis upon apprenticeship; and if they thus secured control of the supply of labor in the trade, found it necessary to place but little dependence upon strikes and boycotts. On the other hand, organizations like the Brotherhood of Locomotive Engineers have found this question settled for them; no one can perform the work of a locomotive engineer without preliminary training, and this natural limitation of the number of trained locomotive engineers makes it possible for their union to get along without maintaining either apprenticeship regulations or the policy of the closed shop.[4] And it rarely places dependence upon the strike. An admirable system of mutual insurance and simple collective bargaining is usually sufficient to keep the membership loyal and obtain from employers fair rates of pay.

[4] The familiar union rule prohibiting members of the union from working with non-union men. The policy is very elastic. No objection is made to working with members of an occupation not yet organized; some unions apply the ban only to non-union men in the same trade or craft; while others practically refuse to work for an employer who hires any non-union men at all (not applying the term "non-union men" to laborers, porters, and other unorganized workers).

In the unskilled trades, on the other hand, where a period of apprenticeship is wholly superfluous, some more artificial protection of the standard of life is employed, like the "policy of the closed shop"; and this naturally forces the union, in turn, to place great dependence upon the strike and boycott. Before condemning a union for employing some of these policies, therefore, or contrasting it unfavorably with highly conservative unions, like the railway brotherhoods, it is necessary to inquire whether or not, like the railway brotherhoods, it is protected by some natural condition of the business which makes peaceable collective bargaining comparatively easy.

Labor unions have recently in some cases, however, exhibited their capacity to act as a monopoly and to coerce both employers and consumers into paying a monopoly price. The public welfare is entirely dependent upon certain industries in which the labor supply is not replaceable. For the railway employer, union members constitute the only available supply of labor. The public has few alternatives to the use of the railway service and so will pay an exorbitant price rather than go without the service. When these conditions are present, the labor union has the force, if not the form, of monopoly.

Neither does the fact that a union is inclusive entirely absolve it. The significant fact is that an inability to limit its numbers does not prevent a union from exerting monopoly power. The benefits of monopoly power can be distributed in the form of shorter hours, fewer necessary days of employment in the year, and general methods of limiting output.

The Policy of Collective Bargaining. — The organized laborers who can demand that the employer bargain with their elected representative for the determination of standard rates of pay or conditions of work have succeeded in the first essential to successful organized activity. For until the employer agrees to recognize the union and meet his employees through their representatives, organization is largely non-effective.

Collective bargaining is strong where individual bargaining is weak. The services of a single disgruntled laborer can easily be dispensed with by the employer, but the presentation of united

demands through an efficient representative commands his attention. The recognition of the union, always closely related to the introduction of collective bargaining, opens the way for the successful carrying out of other union policies. Under Company Union policy, collective bargaining becomes *collective dealing*, which has the form, but not the substance, of collective bargaining.

The Problem of the Closed-shop Policy. — It is impossible to pass any general verdict upon the justice of the closed-shop policy.[5] Most Americans are inclined to condemn it offhand as an attempt to deprive the non-union man of his "sacred right to work." They forget that the union man enforces the closed-shop policy by an exercise of his "sacred right of quitting work." Except where violence is employed, the union which is attempting to enforce a closed-shop policy threatens to do nothing worse than direct its members to quit the employment of the proprietor of the open shop in question. Two equally "sacred and inalienable rights" clash in this contest, and it is plain that no decision concerning the legitimacy of the closed-shop policy can be determined offhand by applying the touchstone of individual rights. If we would know whether a strike against non-union men is justifiable or unjustifiable, we must inquire into all the surrounding circumstances and the manner in which the strike is conducted. If the strike is conducted peaceably, and if the union in question is an open union, cordially inviting the "scabs" to enter and share its benefits; if the rate of wages and other conditions of employment demanded by the union men are reasonable in view of the cost of living and other similar conditions; if the "scabs" involved, by accepting less than a living wage or other harmful conditions of employment, are working — even though of necessity — to undermine a decent standard of living; then we have no hesitation in saying that the employment of the closed-shop policy on the part of the union is thoroughly justifiable. So far as the law is concerned the Supreme

[5] Two forms of the closed shop are common, — the closed shop with a closed union and the closed shop with an open union. Under the latter arrangement the employer may hire whom he will, but the employee must join the union. In the case of the closed union, the employer can hire only members of the union. In some industries, where employment fluctuates considerably, the hybrid "preferential union shop" is common, where the reserve labor is largely non-union.

Court of the United States has decided that an employer — perhaps a large corporation — may, if no contractual obligations stand in the way, discharge an employee for belonging to a union, for any reason or for no reason; and it is possible under the language of the Clayton Anti-trust Act that a combination of workingmen might strike against an employer because he hired or refused to discharge non-union employees, without breach of federal law. But from the standpoint of equity and morals employers frequently discharge men for indefensible reasons, and unions frequently attempt to enforce the closed-shop rule for purposes or by methods which deserve to be condemned.

We must not confine our attention wholly to the injury done to the non-union man. The price cutter in the labor market is not ordinarily a social benefactor. The weakest, dullest, and least enterprising laborer exerts an influence upon the general level of wages out of all proportion to his importance or his deserts. If this be true, the man who cuts the standard rate of wages may do a grave social injury, and there is justification for those who peaceably combine to prevent him from doing his destructive work. It must be remembered, however, that these conclusions are based upon the assumption that the union is an open union and that the strike is conducted without intimidation of or coercive interference with the non-union men.

Limitation of Output. — The policy of limiting output is looked upon as an aid to the maintenance of higher wages and better working conditions. It is generally felt by workers that "whether you work by the piece or work by the day, decreasing the hours increases the pay." The output of the worker is limited in many ways besides the reduction of the hours of labor. The limitation of wages which some unions working by the piece system enforce, the prohibition or penalization of overtime, all operate to check the activity or reduce the output of the particular workman.

The trade unionists' justification for the restriction of output very often takes the form of the *lump-of-work* argument. The quantity of work to be done is assumed to be fixed; consequently, the less each employee does, the longer the work will last and the greater the number that can be employed. While the short-time

effect of such a policy may be to maintain or increase wages, the argument is based on an economic fallacy and the long-time effects cannot but result in a reduction of real wages. There is no fixed amount of any product demanded. While the lump of work to be completed may at any particular time be fixed, yet certainly over any extended period the amount of any product demanded will vary with the cost of production. With decreased production there will come lower wages or greater unemployment.

Limitation of output has been generally condemned, but in some cases unjustly and without adequate reason. It is unsafe to render any general verdict upon the legitimacy of the policy. In some industries in which the piece system is employed, the rate per piece has unquestionably been forced down and the workers spurred to excessive exertion by the pressure and influence of pacemakers or taskmasters, paid by the employers to urge the workers to the utmost speed. Where such conditions prevail, no one can successfully question the justice of the feeling which leads the union to object to the presence of pacemakers and to prescribe a maximum wage — usually above that secured by the average workman — which union members are not permitted to exceed. In general, it is plain that an individual laborer may underbid a competitor by working more intensely, as well as by offering to work longer hours or at lower pay. On this account alone, trade unions are justified in defining and maintaining some regular pace or standard intensity of work. Without such definition, collective bargaining would be impossible. This last observation, it will be noted, applies only to trades working by the day. But even where the piece system is used, the workers may be justified in fixing a liberal limit to the amount of piecework which the wage earner shall be permitted to do in a day. For there can be no question that unregulated piecework does stimulate the worker to excessive exertion, and that as daily earnings under the piece system tend to rise, the employer is tempted to reduce the rates.

Some methods of restriction, however, are wholly vicious. The Journeyman Stone Cutters' Union, for instance, stoutly resisted for years the application of machinery to their work, and actually attempted to prevent the shipment of machine-planed stone into

any city where the union had succeeded in preventing the introduction of planers. In some unions there is tacit approval of the "go-easy" system, the system of "soldiering," or "adulterating labor," as it has been aptly termed. Such a method of restricting output not only corrupts the character of the individual workman who practices it, but makes it impossible for the employer to deal with the union as a seller of honest goods, and in this way tends to undermine the whole foundation of trade unionism, which is, as has been said, collective bargaining. On the other hand, there is no particular reason to believe that union labor is especially given to "go-easy" habits of work. The habit of stealthy loafing is found at its worst in certain unorganized trades or occupations, so that when it appears among union workmen it cannot logically be attributed to organization alone.

The Strike. — The strike is regarded by trade unionists as a "part of the wage system just as much as the brake is a part of the necessary equipment of a railroad train." [6] Trade unionists have frequently expressed the opinion that almost all improvements in the economic condition of the workers have come about as the result of "the industrial struggles of organized labor."

> Every strike means a struggle to hold or advance the toilers' standards of living, greater economic security, better and happier homes, education for their children, improved and more humane working conditions, in fact, a better world to live in.[7]

The strike is, however, looked upon as a measure of last resort, to be used after the chances of success or defeat have been carefully calculated, and after both sides have failed in their attempt to settle the difficulty by all other means such as conferences, conciliation, and arbitration. Nearly all trade unionists are opposed to *compulsory* arbitration and also to compulsory investigation of the causes of a given dispute. It should be noticed that, while many trade unionists still cling to the theory that the strike is the

[6] George E. McNeill, *Philosophy of the Labor Movement*, A. F. of L. pamphlet. Excerpt in D. Saposs, *Readings in Trade Unionism* (G. H. Doran Co., New York, 1926), p. 181.

[7] J. H. Maurer, "Wages Lost in Strikes," *Illinois Miner*, January 6, 1923. Excerpt in D. Saposs, *Readings in Trade Unionism*, p. 188.

most powerful factor in bringing about better conditions for the workers, labor leaders themselves are now tending more and more to frown upon indiscriminate striking, and to rely more and more upon efficient business tactics in bargaining with employers.

A rapid spread of unionism tends to increase strikes. New unions are prone to strike. The sudden realization of their new power, and the accumulation of strike funds, tempt them to try their wings. There is much reason to believe that in the long run organization exerts a conservative and steadying influence: national machinery is created which curbs the capricious impulses of the local unions; experienced men are usually elected to the more important national offices, and when called upon to settle a local quarrel they arrive upon the scene of action without personal resentment against the employers involved. In the past these facts created a confident belief among many of those who had studied the labor question, that when practically all American trades were organized, strikes would steadily decrease, as they had in England, where a much larger part of the wage-earning population was organized than in this country. The post-war strikes in England and in the United States did not justify such optimism. After the war, a number of strikes of great severity took place in England, carried on by the oldest and most conservative unions. In the United States coal strikes and railway strikes, besides a considerable number of strikes in less essential industries, gave very little comfort to those who believed that with the progress of labor organizations strikes tend to decline in number and severity. During the war period of rising prices and large business profits, the demands of labor or threats of strike were generally met with increased wages. Large profits made this possible and national security demanded it. In the post-war period of falling prices and general business depression, labor resisted wage reductions, and prolonged strikes ensued. In 1919 over 4 million men were involved in strikes in the United States. Since 1922, however, the number of workers annually involved in strikes has decreased steadily from 1.6 million in 1922 to .34 million in 1927.

Labor leaders have maintained that strikes strengthen the solidarity of the unions and encourage their members to make personal

sacrifices for the common good, while they force employers to respect the strength of organized labor, and are not, in the long run, particularly costly. The time lost in strikes, it has been said, largely takes the place of enforced vacations — seasonal stoppages and other kinds of unemployment with which the average wage earner is normally visited during the course of the year's work. No dialectic, however, can argue out of existence the injury and destruction resulting from strikes. Many strikes are gravely injurious to the wage-earners themselves; and almost all strikes injure employers and the consuming public. From the social standpoint the strike is an evil, and all justifiable means should be employed to prevent its occurrence.

We must not conclude, however, that workingmen and labor organizations are wholly responsible for strikes. If a body of men agree not to work for a given employer unless that employer complies with certain conditions, whose fault is it if the employer refuses to comply and a strike follows? Very evidently the fault may lie with either the master or the men, or with both. The fault lies with the men if the conditions which they demand are, in view of all the circumstances, unreasonable and extortionate. The fault lies with the employer if he refuses to grant reasonable conditions of employment.

One of the greatest evils attendant upon the strike is violence emanating from both sides. A study of labor disputes in the early period of the modern labor movement seems to show that the average strike of that period was attended with much more violence than the average strike of today. Most labor leaders have thoroughly learned the lesson that violence does not pay, and they exert every effort to suppress it. But at the same time the average strike of the present time is attended with some violence or coercion.

Historically, also, a marked change has shown itself in the character of the violence employed. In the past, labor lawlessness was more or less sporadic; brutal, it is true, but frank and unpremeditated. The lawlessness of today, however, has taken on a far more sinister form; it has become deliberate, premeditated, in many cases official. The outrages perpetrated by the officers of

the International Union of Bridge and Structural Ironworkers (the "dynamite conspiracy") and the whole labor history of the mining industry in Colorado and Idaho make it plain that there has been a certain amount of carefully planned violence perpetrated with the passive consent, if not with the active encouragement, of union officials and members. There can be no doubt, also, that individual employers and employers' associations have stooped to equally reprehensible practices. They have employed as watchmen or detectives ex-convicts, thugs, and professional bad men, who unquestionably have not refrained at times from perpetrating violence in order to cast discredit upon the unions.[8] In Colorado in 1914, and in West Virginia in 1921, the struggle between the organized miners and their employers assumed the aspect of a veritable civil war. It is impossible to conclude which side is the more to blame. The lesson to be drawn is the public necessity of suppressing and punishing violence or intimidation when practiced by either side of the controversy.

Educational and Fraternal Activities. — Practically all unions have important educational and social activities. Debate upon economic topics is common in union meetings, particularly at the conventions of the state and national organizations. It has even been said by observers in close contact with the facts that foreign-born wage-earners receive their most helpful and vital education in American public questions through the agency of the union. The magazines issued by many labor unions are of educational value both to the immigrant and to the American-born wage-earner, and some of these publications have shown a tendency to improve in quality. This broad education, which is a most important factor in elevating the standard of life, is supplemented by the social activities of the labor organization. Many unions maintain a so-called "Ladies' Auxiliary," in which the wives of the members participate; give concerts, dances, and other social entertainments, maintain charitable activities, and by general social intercourse operate to unify and solidify the standard of life of the wage-earning group concerned.

Closely allied with these educational and social features is the

[8] See Sidney C. Howard, *The Labor Spy* (Republic Publishing Co., New York, 1924).

system of insurance benefits, which has played a very prominent part in the development of labor organizations. In Great Britain fully three times as much money is expended by the unions upon mutual insurance of various kinds as upon administrative activities, or for the support and encouragement of strikes. Union insurance is helpful, not only in stimulating thrift among the individual members, but in making the union more careful and conservative in its policies. Moreover, it serves to keep in the union a large number of members, who, if they had no financial stake in continued membership, would drop out of the union in times of peace, when no apparent advantage was to be derived from the union. All things considered, the Cigar Makers' International Union has many claims to be considered one of the most successful American labor organizations; and its success is in a large degree, if not in the largest degree, attributable to its wise and extensive use of mutual insurance. But on the whole, the American unions have made relatively little use of the insurance benefit, though this function of the union has developed in recent years. Most of them pay strike benefits, — that is part of their fighting policy, — and perhaps a majority of them pay funeral benefits, while a respectable majority pay sick benefits. The employment of the superannuation, accident, traveling, or " out-of-work " benefit, while still comparatively rare, is increasing in importance. In the clothing or needle trades, with the active financial support of the employers, unemployment insurance funds have been started. These experiments may prove of great importance. About 1920 a number of the more powerful organizations went into the banking business; the American Federation of Labor and the Electrical Workers' Union organized life insurance companies, and other experiments have been made with investment trusts. Some of the banks, notably those of the Brotherhood of Locomotive Engineers, have encountered serious difficulties, but at the close of 1928 there were 27 labor banks with total resources of over one hundred million dollars.

The Organized Employer. — The development of modern employers' associations has been briefly noted in an earlier chapter. Their activities give rise to a movement which may be briefly described as an anti-labor movement. In almost every respect they

are the natural foil and counterpoise of the labor organization. They resemble the association of laborers even in structure. Thus we have had employers' associations recruited entirely from one industry, such as the Stove Founders' National Defense Association; associations of employers in distinct but related industries, such as the National Metal Trades Association; and mixed associations in which all kinds of employers are united, such as the Citizens' Alliances, so common a few years ago in many of the Western cities. To complete the analogy, these associations frequently combined in city, state, and national federations, thus forming large confederacies, similar in scope and activity to the state and national federation of labor. Speaking generally, employers' associations show less permanence than trade unions, and many of the employers' associations which were active a decade ago are now moribund.

We find the same resemblances between employers' associations and labor organizations when we examine the policies and aims of the former. Thus they make frequent use of the lockout. The Stove Founders' National Defense Association, for example, began its interesting career with a lockout of the iron molders in the employ of its members. Like the trade unions, also, they have their legislative committees or lobbies, and are credited, for instance, with having played an important part in defeating the eight-hour and anti-injunction bills which have been before Congress several times. Some of these organizations also maintain so-called labor bureaus, whose function it is to secure accurate information of the workmen in the trade, so that troublesome agitators may be refused employment; and the methods employed in this branch of the work give rise to the "black-list," something closely akin to the "unfair list" published by many national unions. Some of the more radical associations have stooped at times to violence and coercion, as was illustrated in 1904 by the employers' associations of the Cripple Creek district, which boycotted business firms, forced public officials to resign by threats or violence, and filled the vacant places with their own adherents.

Some of the employers' associations are conservative in tone and policy, working harmoniously with the labor organizations in the

industry, and going no farther than to endeavor by every legitimate measure to further the interest of the affiliated employers. Such associations are exceedingly helpful in furthering that régime of peaceable collective bargaining to which most students of this subject look forward as the ultimate outcome of present-day tendencies. They are thus doing in an effective way the work of industrial peace. Another group, however, while temperate in tone and waging no warfare on the labor organization as such, nevertheless maintain certain fundamental principles which are directly in conflict with the fundamental tenets of trade unionism. These associations, for instance, maintain that the method of wage payment — *i.e.* whether wages shall be reckoned by the hour, the piece, or the premium system — is a matter which concerns the employer alone, and they refuse to submit such questions to collective bargaining or arbitration. Associations in this second group do not needlessly foment strife with the unions, but they regard industrial peace as a consideration secondary to the maintenance of their fundamental principles, and accordingly they have been involved in a number of protracted strikes and disputes. Finally, there is a third group of employers' associations, of which the average citizens' alliance is a good example, which may be correctly described as "union smashers." Such associations have little regard for the establishment of sound principles of collective bargaining, and they are usually violently opposed to any recognition of organized labor; their aim is to weaken and harass their enemy, the labor organization, whenever possible. The extremely radical organizations on both sides secure, by reason of their revolutionary utterances and tactics, far more attention than their intrinsic importance justifies.

The Agencies of Industrial Peace. — Although collective bargaining does not necessarily and in every instance operate to discourage strikes, its net influence is unquestionably favorable to the maintenance of industrial peace. Where a powerful trade union exists, and the employers resolutely refuse to deal with it, strikes are frequent. Where the opposite policy is pursued, and the employers frankly recognize the union, strikes are infrequent. Among steam railway employees in the train service, in the needle trades

of Chicago, and in many of the industries of England, strong organizations of employers and employees have shown through collective bargaining the power to maintain industrial peace for long periods of time. An outstanding instance of industrial peace based on collective bargaining is found in the stove industry, in which a trade agreement entered into between the iron molders' union and the national Stove Founders' Defense Association in 1890 has assured an unbroken peace to date. We have seen that, since 1919, with the exception of the year 1922, strikes and labor disputes have shown a steady decline. But strikes and labor friction prior to 1920 attracted so much attention that many important plans or methods of preserving industrial peace were developed. The more important of these schemes may be classified as mediation or conciliation, voluntary arbitration, compulsory arbitration, and compulsory investigation.

Mediation. — Many of the earliest attempts at settling industrial disputes took the form of mediation. Mediation implies that some public or private agency succeeds in getting the contending parties together for peaceful settlement through discussion and agreement. The findings and decisions of a mediation committee may or may not be accepted, agreement need not in fact ensue. The essential to successful mediation is willingness on the part of all to come to an agreement and abide thereby. While mediation is the weakest of the agencies for industrial peace, yet it serves to bring the parties together for discussion and leads to a better understanding of each other's viewpoint. As an example of a public agency rendering this service we have the Industrial Commission of Wisconsin, which is authorized to offer its services as mediator in labor disputes in that state.

Voluntary Arbitration. — Arbitration is termed voluntary when both parties freely agree to submit the dispute to some authoritative court or board for settlement. Most advanced states now maintain boards of conciliation and arbitration whose business it is to prevent strikes if possible. Before such boards can act the parties to the dispute must submit the case for investigation and, usually, agree to refrain from strike or lockout and to accept the decision. Voluntary arbitration has proved helpful in maintaining industrial

peace, but its success is entirely dependent upon the willingness of the parties to the dispute to agree to arbitration, and the power of public opinion to enforce it. For the most part voluntary boards of arbitration have shown little ability to cope with the situation. However, in a critical situation in 1921, the Railway Labor Board created under the Transportation Act of 1920, without any power of compulsion, succeeded in averting an impending general strike by constituting itself the unmistakable mouthpiece of public opinion.

In England many of the wider systems of collective bargaining are based upon formal treaties, which provide for arbitration in case the two parties cannot come to an agreement concerning terms. This is frequently referred to as *trade arbitration*. Many authorities on the subject are inclined to think that the introduction of arbitration, even as a last resort, makes less likely the success of collective bargaining. It is almost always necessary for both sides in collective bargaining to make some compromises; and this necessity imposes upon the representatives of the trade unions the disagreeable duty of reporting to their constituents that they have not secured the exact terms which they were instructed in the beginning to demand. Because of this fact, if a provision for arbitration exists, the union representatives are disposed to throw the responsibility of disappointing their followers upon the shoulders of the arbitrators.

Moreover, collective bargaining is essentially inconsistent with arbitration. Collective bargaining is commercial and elastic: it deals with the formulation of future terms of employment; it looks to securing the best results possible; it has no rational foundation save the willingness of the parties concerned to get the most possible for their labor or their money, as the case may be; whereas arbitration is judicial in essence, and its successful application implies the acceptance of some established principle of wage adjustment, in the justice of which both parties acquiesce. It is unfortunate but true that up to the present time no one has ever formulated a doctrine of wage adjustment which is at once workable and acceptable to a majority of the people. Arbitration is a perfectly logical device, and works successfully in the interpretation of minor

difficulties growing out of a broad agreement which has already been accepted. Or, if both sides adopt some governing principle, it is perfectly possible for a disinterested arbitrator to decide what this principle demands in a given localized situation. But as a helpful device in securing the initial adoption of a fundamental agreement, mediation is superior to trade arbitration, although the latter appeals to the employers because it promises to prevent stoppage of work pending the decision of disputes.

Compulsory Investigation. — The Canadian Industrial Disputes act of 1907 created an agency for industrial peace which differs in important details from both arbitration and mediation, although it is sometimes spoken of as compulsory arbitration without compulsory acceptance of the award. This law provided for the creation of a public board, and forbids strikes or lockouts in important industries until the board has had time to investigate the dispute and publish its findings and recommendations concerning the equities of the case. Public opinion is depended upon to secure acceptance of the award. While compulsory investigation has not been entirely successful in Canada, having operated in some cases merely to postpone strikes rather than to prevent them, yet it is probable that such a law would go far toward delivering us from their more injurious industrial conflicts. Colorado passed a law in 1915 by which a state Industrial Commission is empowered to make investigations and employers and employees are obliged to give thirty days' notice before changing the conditions of employment. During that period strikes and lockouts are illegal.

The vital provisions of such a method of conciliation are: (1) the prohibition of strikes and lockouts before and during the investigation; (2) widespread publication of the findings of the board of investigation and conciliation; and (3) full permission to strike or lockout after the publication of the findings.

Compulsory Arbitration. — In New Zealand an even more radical remedy has been tried. In 1904 the New Zealand system was adopted by the Commonwealth of Australia. Under this law seven workingmen in any industry may organize a union and lodge a demand for better conditions of employment before arbitration boards, whose decisions, when ratified by the supreme or central

court of arbitration, are absolute and binding. Similarly, any employer whose workmen are organized in a union may take a case to the arbitration tribunals for settlement. An award of the central court of arbitration may be extended by the court to all competitors of the original employer in the colony. In this way, compulsory arbitration brings about the introduction of minimum wages and other conditions of employment, *established by the authority of the state* and enforced, not only by the watchful care of the parties concerned, but by the factory inspectors themselves. In Victoria and South Australia much the same results are reached through the agency of wage boards — containing representatives of both the employers and their employees, with a chairman selected by these representatives or appointed by the government — which are empowered to prescribe minimum wages and other conditions of employment, that are enforced, as in New Zealand, by the factory inspectors. Strikes, however, are not prohibited under this system, although they are very rare in industries in which wage boards regulate wages and hours of labor.

It is impossible to enter into a detailed discussion of either the New Zealand or the Victoria system at this place. Both systems have been in operation since 1896, both have been extended to other Australian colonies. The laws recently adopted in New South Wales, South Australia, and Queensland contain the principal features of both systems. The fixing of minimum conditions of employment is perhaps the most important element in both systems, but it is noteworthy that the compulsory arbitration idea has endured and spread. Strikes are not wholly prevented, particularly in industries in which the labor organizations are very strong; and many employers criticize both systems vehemently. With the passage of time, however, they have been strengthened, not repealed; and the consensus of qualified opinion seems to be that they have met with measurable but by no means complete success.

In 1920 Kansas created an Industrial Court with powers of making compulsory awards and prohibiting strikes and lockouts. Organized labor was violently opposed to the scheme. In 1923 the United States Supreme Court decided that the requirement that employers and employees must abide by wages fixed by the Kansas

court was unconstitutional, and the Court has now virtually passed out of existence.

The Special Case of Certain Industries. — In arriving at a decision concerning the measures which ought to be taken to maintain industrial peace, it should be remembered that strikes are much more destructive and dangerous in some industries than in others, and that here, as in most other economic problems, it is dangerous to proceed wholly on the basis of general principles. In most industries, in our opinion, the strike question may safely be left to the enlightened self-interest of the parties concerned, trusting to collective bargaining and the work of voluntary arbitration to prevent an excessive amount of war. In small competitive industries the peaceful strike is not necessarily an alarming phenomenon.

Slowly and surely, however, the opinion is gathering force that in those industries which vitally touch the public welfare (such as the anthracite coal industry, railway transport, and the like) the public should, and by an exercise of legal ingenuity might, find means to preserve the peace whether the two parties immediately concerned desire peace or not. Compulsory arbitration in competitive industries is probably unconstitutional in this country. But with quasi-public industries, "industries affected by a public interest," the question is somewhat different. Since, because of their monopolistic character and their intimate connection with the convenience of the public, the legislature may regulate the service and the rates of such industries, it has been argued that the legislature may adopt any measure necessary to prevent the utter cessation of such industries by strikes and lockouts. The constitutionality of such measures would, however, be doubtful, even if they proved to be practicable, which is a highly debatable question. The federal government in the Erdman and Newlands Acts provided machinery for mediation and arbitration in disputes affecting interstate railways. Many important disputes which threatened widely to interrupt interstate commerce were settled by mediation — and a few very important disputes by arbitration — under these laws. Many threatened strikes by employees in the train service were prevented; and it is interesting to observe that with the passage of time more use is made of arbitration, and

that under certain circumstances the arbitrators are permitted to make binding awards. Much was expected of the Railway Labor Board established under the Transportation Act of 1920. It succeeded well enough in 1921, but in 1922 the country had to endure an extended strike of the railway shopmen against a reduction of wages made in accordance with the findings of the Labor Board. The failure of the Board to settle this dispute without a strike marked the breakdown of the system. Thereafter it commanded the confidence neither of the employers nor the workingmen. In 1926, accordingly, upon the combined petition of employers and men, the Labor Board was superseded by the mediation and arbitration machinery provided by the Watson-Parker Act. The disputes which have thus far come before the boards organized under this Act have been settled without strikes, but enough time has not yet elapsed nor have sufficiently serious disputes arisen to subject the system to a real test.

Devices for the Prevention of Industrial Disputes. — The difficulty of successfully settling industrial disputes suggests the consideration of means and methods for the prevention of industrial conflict. The devices looking toward the elimination of the causes of industrial friction are numerous. The idea of anticipating and preventing further friction between labor and capital appeals to many as affording the only ultimate solution of the labor problem. Extended discussion or even mention of the many plans and devices cannot be undertaken here. The discussion must be limited to a brief consideration of methods that have received serious consideration.

Profit Sharing. — Profit sharing attempts to remove the cause of industrial disputes by assigning to the employees a share of the profits fixed in advance. It is held that this arrangement enlists the employees' interest in the success of the business, makes them more economical, and so increases their zeal and efficiency that the share of profits they receive does not reduce in the long run the earnings of the employer. In other words, the employees create the fund from which their bonus is paid. This bonus may be paid in many different ways: in cash at the end of the business year, or in shares of stock in the company in question, thus making the

workman partial owner of the business; or it may be amassed in a savings or insurance fund, from which in his old age the workman receives a pension, or his family an annuity or cash premium at the time of his death. The last method of profit sharing is usually spoken of as "deferred participation."

Neither historical study nor theoretical analysis of profit sharing furnishes reasonable ground for the belief that this method of industrial remuneration will ever play an important part in solving the modern labor problem. The reasons why profit sharing has not proved very successful are various. In the first place, it has incurred the enmity of most labor leaders, who oppose it because it has often been introduced after a disastrous strike as an antidote to trade-unionism, and because they believe that it stimulates the men to work beyond their strength, and eventually results — as overspeeding always results — in reduced wages.

In the second place it is illogical and inconsistent that, as explained by most of its advocates, the workmen create the fund from which their dividends are paid by increased care, zeal, and speed. If this be true, and the system can hardly prove a permanent success unless it is true, the end which profit sharing seeks would be better achieved by the piece rate or gain sharing methods of wage payment. By both of these methods the worker gets his premium for extra zeal and efficiency as part of his wage, not as a gift; gets it on pay day, not at the end of the year; and feels as free to bargain and higgle about the size of the premium as he does about the size of the wage. Moreover, his premium cannot be dissipated by unwise management or dishonesty on the part of the employer, and it cannot be lost by reason of his death, discharge, or change of employment.

Coöperation. — There are two kinds of coöperation, coercive and voluntary. Coercive coöperation, which implies a partial or complete application of socialism, is discussed in another chapter.

Voluntary coöperation takes many different forms, among which we may distinguish: (1) distributive or consumers' coöperation, sometimes spoken of as coöperative buying; (2) coöperative borrowing or coöperative credit; (3) coöperative marketing; and (4) producers' or pure coöperation.

Consumers' coöperation, coöperative borrowing, and coöperative marketing are not of direct concern in a discussion of the agencies for the prevention of industrial disputes. Consumers' or distributive coöperation is merely a method of retail or wholesale exchange in which the purchasers come together to purchase what they need and thus lessen their outlays. Usually they form a stock company, subscribe for shares, employ a manager and clerks, — who often do not even share in the profits, — and start a business.

Coöperative credit and coöperative marketing are familiar phenomena in the United States: the first in the form of building and loan associations; the second in the form of fruit growers' associations, coöperative elevator companies, and the like, formed for the purpose of securing better terms and facilities from railways, commission houses, and middlemen in general. They have done little and promise to do little in solving the labor problem or in essentially improving the distribution of wealth. They are, for the most part, composed of small capitalists, farmers, or salaried men (not wage-earners), and in organization differ little from democratically managed stock companies of the usual type. The limited significance of the coöperative movement is indicated by the fact that the employees of the British Coöperative societies have formed themselves into a trade union for the betterment of the conditions of their employment.

The one variety of coöperation which really attempts to alter or amend the wage system is producers' coöperation. The essential features of this form of coöperation are (1) that each group of workers is to be associated by their own free choice; (2) that these associates shall work under a leader elected and removable by themselves; and (3) that the collective remuneration of the labor performed by the group shall be divided among all its members (including the leader) in such a manner as shall be arranged, upon principles recognized as equitable by the society themselves.[9]

Successful coöperative experiments fulfilling the above conditions are seldom met with. Most experiments in producers' coöperation have failed, and we fear they must continue to fail. They

[9] D. F. Schloss, *Methods of Industrial Remuneration* (Williams & Norgate, London, 1898), p. 228.

apparently cannot meet the competition of businesses organized in the ordinary way, directed by one man or set of men with all the efficiency, mobility, and adaptability that come from singleness of aim and undivided management. Industrial democracy, as achieved in the coöperative form of industrial organization, is too unwieldy, too slow, too mechanical. Multitudinous management means relatively uncertain, indecisive, and inefficient management.

The wage contract, whatever its defects, has one striking virtue — certainty. The wage-earner knows what to expect and gets what he expects. He is safeguarded in large measure against business risk, and although he may pay too high a price for his safety, the safety itself is a highly desirable thing. It is one of the weaknesses of producers' coöperation that the workman is encouraged to invest his savings in the hazardous competitive experiments in which he is engaged. He becomes part owner of the enterprise, to be sure, but by doing so he assumes the risk of failure, a risk which, other things being equal, it is desirable to eliminate. It is very likely that the ultimate method by which industrial democracy is achieved will retain that feature of the present wage system by which most of the workers are largely safeguarded against business losses.

The Trade Agreement. — The most important agency for maintaining industrial peace that is now available and that can be adapted to our present wage system is the *trade agreement*. The trade agreement does not attempt to secure a unity of interest between labor and capital, but frankly recognizes the conflict of interests. It is, in essence, an attempt to raise the plane of the conflict. Its purpose is to substitute peaceful negotiation for an appeal to force. The trade agreement has been described as an industrial treaty which defines the conditions of work in any particular plant or industry. The agreement is usually entered into for a definite period of time, and commonly carries with it a provision for some type of tribunal for the interpretation of the pact. It does not look as far ahead as coöperation, nor does it seek to remove all causes of conflict. It is a practical device with large possibilities. Trade agreements have proved most helpful in a large number of industries.

Recent Changes in the Labor Situation. — Striking changes in the labor situation in this country have resulted from the steady industrial prosperity enjoyed in the United States since 1922 and also from the cutting down of immigration during the War and after. The present labor situation is characterized by a marked increase in the physical productivity of the individual wage-earner, a substantial decrease and apparent stabilization in labor union membership, an important diminution in the number of strikes, and a low rate of labor turnover. The prosperous condition of American industry has maintained the demand for labor, while the restriction of immigration has kept down the supply to some extent, though workers leaving the farm for the factory have filled what might otherwise have been a pressing demand. Employers in this country have felt it desirable to maintain the good will of the workers and to increase their output. In the larger establishments they have therefore, for the most part, adopted a new personnel policy, which has as its main objects the reduction of labor turnover (through such measures as the more careful selection of employees, group insurance, old-age pensions, protection of employees against arbitrary treatment), and the augmentation of the worker's productivity (through such means as granting bonuses to efficient workers, encouraging saving, and helping workers to acquire a "stake" in the enterprise by selling preferential stock to them). The hiring and dismissing of employees have, in a large number of firms, been taken out of the hands of the foreman and placed under the control of a "labor manager." Efficient workmen, under the new personnel policy, are promoted to higher positions, whereas, under the old system, many foremen preferred not to promote their best men,[10] who therefore devoted their ability to the service of the labor union.

It is highly uncertain, however, whether the employers' recent labor policy has been the main cause of the decline in union membership which took place between 1920 and 1926. In the latter part of the period the membership of the International Ladies Garment Workers Union was decimated, not through the employ-

[10] See S. H. Slichter, "The Current Labor Policies of American Industries," *Quarterly Journal of Economics* (May, 1920), Vol. XLIII, No. 3, p. 417.

ers' paternalistic activities, but through internal dissension. The sudden fall in union membership between 1920 and 1923 was due, in the main, to unemployment and to the failure of important strikes. The ultimate effect on the trade union movement of the recent development of employers' welfare work is still uncertain.

The Future of the Union and Industrial Peace. — Employers in this country have generally taken the view that industrial peace would be achieved more easily if the labor union, and more particularly the organized strike, were by some means abolished. Trade unionists, on the other hand, have claimed that neither industrial democracy nor industrial peace can be achieved without collective bargaining. It is certain that, since the introduction of collective bargaining, its range has constantly widened. Beginning with questions of wages, hours of labor, and apprenticeship, it has gradually spread, until at the present time some unions bargain about the sanitary conditions of the work, the introduction of safety devices, the employment of women, the use of machinery, and the status of the men with whom their members work. A few powerful unions insist that the foremen under whom their members work shall belong to the union, demand a voice in the discharge of employees, and try to force the employer, when taking on new men, to select them in order from lists of unemployed journeymen prepared by the union. These demands, of course, may be harmful: in industry as in government, certain functions must be intrusted almost wholly to the executive head. The fact that power may be abused, however, is really beside the point. The point lies in the possibility of extending the range of collective bargaining until the employees have a real voice in determining the conditions of employment.

These words are written in no spirit of advocacy, and with no intention of palliating the obvious shortcomings of the trade union. But the fact remains — whether we like it or not — that economic theory and economic history unite in the conclusion that the union has come to stay as long as the system of capitalistic production. The union must be improved, it cannot be extirpated; and there will be no permanent peace until employers

acknowledge the inevitableness of the union, and unions acknowledge the serviceableness of the employer.

Trade unions have been guilty of many sins, — violence, monopoly, political corruption. But their gravest danger in the past has been a false philosophy, in accordance with which many unionists came to believe that the best way to help the union was to oppose the employer. This was never true of the more wisely conducted unions. In the recent past, fortunately, the philosophy of opposition has given way in increasing degree to a policy of coöperation. Effective coöperation was introduced in 1923 in a number of the shops of the Baltimore and Ohio Railroad, and its success since 1923 has led to its adoption by the Canadian National Railways and other roads. It is even more important that many unions have come to see the vital bearing of efficiency and productivity upon real and money wages. The American Federation of Labor has recently endorsed the policy of relating wages to productivity in addition to a proper standard of living. In these and other ways united labor will learn how to drive just as favorable a bargain as possible with the employers in the first instance, and then, the bargain having been made, to bend every effort in loyal coöperation with the employer to make the business the greatest possible success. This is not mere platitude. In the long run, the institution that stands in the way of productive efficiency will perish. The trade union must bring into industry something besides conflict, or it will disappear. The union that so conducts itself as to make the non-union man or the non-union shop more efficient than the union man or the union shop, simply puts a premium upon the suppression of unionism.

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CHAPTER XXXIII

SOCIALISM

Socialism Defined. — Socialists seek the establishment of industrial democracy through the instrumentality of the State. Our political organization is to become also an economic industrial organization. Socialism contemplates an expansion of the business functions of government until the more important businesses are absorbed. Private property in income-yielding capital and land is to be abolished. Socialists make no war upon capital; what they object to is the private capitalist. They desire to socialize capital and to abolish capitalists as a distinct class. Their ideal, then, is not, as is supposed by the uninformed, an equal division of existing wealth, but a change in the fundamental conditions governing the acquisition of incomes.

Socialists usually say that labor creates all wealth. Land and capital, they hold, are merely passive factors of production, and their owners ought not to receive a share of the product except as they personally are useful members of the community. Labor is the active factor, and all production is carried on for the sake of man. Land and capital are merely the tools of man. Socialists admit that the owners of these tools must receive a return for them when industry is organized as it is now; hence they desire that these tools should become public property. They wish to make of universal application the command of the Apostle Paul, "If a man will not work, neither let him eat."

The foregoing characterization applies to most persons who have been called socialists, but the genus contains a number of species which should be distinguished.

Utopian Socialism. — The group of Utopian socialists contains those who have become impressed with the evils of the present competitive system and propose the collective ownership of the

means of production as a remedy, in much the same spirit with which a physician writes a prescription to cure his patient. There have been many attempts to show how smoothly things would proceed if men could only be persuaded to adopt the collective ownership of land and capital. Utopian socialism is sometimes called "rationalistic," as contrasted with "evolutionary" or "scientific." It draws a picture of an imaginary ideal state of affairs in which men behave "reasonably," so that unhappiness and injustice are banished. It really demands a fairly complete reconstruction of human nature, — although, it should be noted, some of the Utopian socialists argue that many of the faults of man as he is today are the products of our faulty economic and social institutions, and would disappear with the passing of those institutions.

As a type of this class we may take Robert Owen. His life was contemporaneous with the Industrial Revolution in England, he himself being a successful manufacturer. He saw with his own eyes the evils of unrestricted competition, and was filled with an earnest desire to better the condition of the working classes. He is remembered as a factory reformer and promoter of voluntary coöperation, but he regarded such efforts as not sufficiently radical and thoroughgoing. He thought human nature must be reformed by careful training from childhood in an atmosphere of association, instead of in the self-seeking, commercial atmosphere which surrounded his own life. He spent his large fortune in an attempt to carry out his ideas regarding the reconstruction of society. Among his projects was the founding of a colony at New Harmony, Indiana, where no private property or competition should exist. After a struggle of two years, the experiment ended, as most other similar enterprises have, a complete failure. In this group would also be placed Saint-Simon, Fourier, Cabet, Bellamy, and others. Some writers, like Louis Blanc, occupy a position intermediate between the Utopian and later socialistic movement.

Marxian Socialism. — The Marxian socialists call themselves scientific, as distinguished from the idealistic writers just mentioned. They insist that they have no cure-all for the ills of society. Socialism in their eyes is, in the main, only an explana-

tion of what is happening and a forecast of what must inevitably happen in the future. The private capitalistic system is breaking down, they say, and the logical result must be the collective ownership of the means of production as the next stage in social evolution. They say that setting aside all question of "ought" or "desirability," collective ownership is coming, and we might as well adjust ourselves to it.

Karl Marx (1818–1883) and his friend and collaborator, Friedrich Engels, were the founders of this type of socialism, the origin of which may properly be given the date of their joint "Communist Manifesto" of 1848.[1] The basic elements of the Marxian philosophy are: (1) the labor theory of value, and (2) the economic interpretation of history. The labor theory of value has been briefly considered in an earlier chapter. Upon it Marx built the doctrine of surplus value, according to which the income of the capitalist class is not a payment for "waiting" or for any other productive service, but results from the fact that through their ownership of the means of production capitalists can compel laborers to work for more hours than are needed to produce what they receive as wages. From the "surplus value" of the additional product the capitalist's income is derived.

The economic interpretation of history makes the struggle for a living the factor which determines political, legal, and religious institutions, as well as art, literature, philosophy, and accepted codes of morals. Economic self-interest, expressing itself in one way or another according to differences in modes of production and exchange, is held to be the stuff out of which history is made. Marx and Engels made this particular philosophy of history serviceable to the cause of socialism by putting particular stress upon the way in which self-interest expresses itself as class-interest. Thus the economic interpretation of history was made to lead to the doctrine of the *class struggle*. In the words of the Communist Manifesto:

[1] The Marxian doctrines respecting value and distribution were closely paralleled by those of Karl Rodbertus, a very able German socialist. Similar views had already been advanced by the Frenchman, P. J. Proudhon, and by certain English writers, notably William Thompson, who had given a socialistic twist to doctrines derived largely from Smith and Ricardo.

The history of all hitherto existing society is the history of class struggle. . . . In the earlier epochs of history we find almost everywhere a complicated arrangement of society into various orders, a manifold gradation of social rank. . . . The modern bourgeois society that has sprouted from the ruins of feudal society has not done away with class antagonisms. It has but established new classes, new conditions of oppression, new forms of struggle in place of the old ones. Our epoch, the epoch of the bourgeoisie, possesses, however, this distinctive feature: it has simplified the class antagonisms. Society as a whole is more and more splitting up into two great hostile camps, into two great classes directly facing each other: Bourgeoisie and Proletariat. . . . The advance of industry, whose involuntary promoter is the bourgeoisie, replaces isolation of the laborers due to competition by their involuntary combination due to association. The development of modern industry, therefore, cuts from under its feet the very foundation on which the bourgeois produces and appropriates products. What the bourgeoisie therefore produces, above all, are its own gravediggers. Its fall and the victory of the proletariat are equally inevitable.

Looking backward, the bourgeoisie, or capitalistic middle class, was pictured as having originated in the medieval town and as having finally gained the ascendancy over the privileged feudal orders. Looking prophetically forward, it was pictured as decreasing in numbers and growing in wealth and power, with the proletariat — the laboring class — increasing in numbers but becoming increasingly impoverished. The gulf between the two classes, it was held, would widen until the workers, coming to realize their class interest and their potential power, arose in revolution — either violent or peaceful — and established the socialistic régime. Because of this exceedingly important aspect of its doctrines, Marxian socialism is often called *revolutionary*, or scientific-revolutionary, socialism.

As a matter of fact the word revolutionary describes this type of socialism better than the word scientific. Marx's economic theories are exceedingly crude, and his philosophy of history is full of inconsistencies and contradictions. But the doctrine of surplus value, however unscientific, is, in effect, a proclamation that injustice reigns in the world today. And the doctrine of the inevitable class struggle, it has been found, is able in a peculiar way to capture the imagination and the emotions of men. It is for such reasons, not because of its "scientific" qualities, that Marxian socialism has attained its present enormous following.

Types of Moderate Socialism. — Although, as we have seen, socialism looks toward the expansion of the economic functions of the State, most socialists think that the coming of socialism would be attended by the replacing of existing forms of government by new types. The socialist state, they hold, would be controlled by the "workers"; it would be, so far as possible, decentralized; its legislative and administrative machinery would be "democratized"; its "coercive" powers would be minimized, — for socialists profess to believe that with a different economic system less coercion would be needed. Some socialists look forward to a dual system of government, one branch dealing with political and the other with economic affairs.

State socialism is a term frequently used, especially in German discussions, to designate the views of those who favor an extension of the economic functions of existing governments. State socialism, therefore, is a matter of degree, of more or less. Its adherents really include those who favor extending government ownership and increasing considerably the amount of governmental supervision over private industry. Marxian socialists of the more extreme type are generally opposed to state socialism on the ground that it strengthens the existing "capitalistic state." One reason why Bismarck supported a moderate program of state socialism in Germany was that it helped, he thought, to retard the growth of revolutionary socialism.

The members of the British *Fabian Society* sometimes sum up the doctrines they advocate under the name of "administrative socialism." Their avowed aims include "the extinction of private property in land" and "the transfer to the community of the administration of such industrial capital as can conveniently be managed socially," together with an elaborate program of labor legislation, tax reform, and political reorganization. Organized in 1889, the Fabian Society has never had more than a few thousand members — largely "intellectuals," — but it has had a very large influence upon the progress of socialism and the labor movement as well as upon British politics. Among its leading members are Sidney and Beatrice Webb, Bernard Shaw, and Graham Wallas. Education, coöperation, and

gradual change instead of revolution are fundamental tenets of the Fabian creed.

There are other types of moderate socialism, but their likenesses are more important than their differences. In fact, in their more moderate wings, most types of socialism meet at a common point. Thus among the Marxian socialists are many who believe that some of Marx's doctrines, and especially his pessimistic prophecies, need to be revised. Moreover, instead of waiting for the final revolution, all but the most extreme sects of Marxian socialists have come to give their active support to "opportunistic" measures, — taking what small gains can be secured from time to time, even at the hands of the "capitalistic state." Practically, the views of the more conservative socialists of different countries do not differ greatly. Allowing for differences in national conditions and national problems, the immediate program of the Social Democratic party of Germany (which professes adherence to Marxian principles) is strikingly like that of the Fabians.

The following words of the late Jean Jaurés — a very able and influential French socialist — on the method of realizing the socialist ideal are of interest in this connection:

> All Socialists, indeed, some openly, others with infinite precautions, some with a mischievous Viennese good-nature, declare it to be untrue that, taken as a whole, the economic material condition of the proletariat is getting worse and worse. It must be conceded, after taking account of the tendency to sink and the tendency to rise, that in the immediate reality of life, the tendency to sink is not the stronger. Once this has been granted, it is no longer possible to repeat after Marx and Engels that the capitalist system will perish because it does not insure to those whom it exploits the minimum necessities of life. It follows from the same admission that it has also become puerile to expect that an economic cataclysm, menacing the proletariat in its very existence, will bring about, by the revolt of the instinct of self-preservation, the "violent overthrow of the bourgeoisie."
>
> It is not by an unexpected counter-stroke of political agitation that the proletariat will gain supreme power, but by the methodical and legal organization of its own forces under the law of the democracy and universal suffrage. It is not by the collapse of the capitalistic bourgeoisie, but by the growth of the proletariat, that the Communist order will gradually install itself in our society.[2]

[2] J. Jaurés, *Studies in Socialism* (trans. from French by M. Minturn) (G. P. Putnam's Sons, New York, 1906), pp. 167–169.

Communism. — Communism was the term employed by Karl Marx to distinguish his own philosophy from the utopian schemes of such men as Owen, which he, like Owen himself, termed "socialistic." But today the reverse has become the more common usage. Communism now very generally signifies the abolition of private property not only in production goods, but in consumption goods as well, whereas most socialists contemplate the retention of private property in personal income. But certain extremist groups among the socialists, including some who advocate the use of violence, call themselves communists, as do some equally radical anarchists.

Anarchism. — In contrast with the socialist, the anarchist holds that the ideal arrangement is that men should freely and spontaneously form coöperative groups. The anarchists attack government and deny the right of one man to exercise authority over another, or of a majority to have power over a minority. Freedom, independence, self-reliance, non-compulsion, are what appeal to them. Such an ideal contains nothing reprehensible, but its complete attainment is impossible. Some governmental compulsion seems necessary with human nature as it is or is ever likely to be. Kropotkin, one of the most famous anarchists, described his ideal society, based on voluntary association, in these terms:

> This society will be composed of a multitude of associations federated for all the purposes which require federation; trade federations for productions of all sorts, — agricultural, industrial, intellectual, artistic; communes for consumption, making provision for dwellings, gasworks, supplies of food, sanitary arrangements, etc.; federations of communes, among themselves, and federations of communes with trade organizations; and finally, wider groups covering all the country, or several countries, composed of men who collaborate for the satisfaction of such economic, intellectual, artistic, and moral needs as are not limited to a given territory. All these will combine directly by means of free agreements between them, just as the railway companies or the postal departments of different countries coöperate now, without having a central railway or postal government, — even though the former are actuated by merely egotistic aims, and the latter belong to different and often hostile states; or as meteorologists, the Alpine clubs, the lifeboat stations in Great Britain, the cyclists, the teachers, and so on, combine for all sorts of work in common, for intellectual pursuits or simply for pleasure.[3]

[3] *Memoirs of a Revolutionist* (Houghton Mifflin Co., Boston, 1899), pp. 398–399.

Many persons class anarchists and socialists together as simply dangerous persons. One thing they do have in common, and that is, discontent with existing conditions. Otherwise their views are in most respects radically divergent.

Anarchists differ among themselves. The "communist-anarchist" Kropotkin advocated revolutionary tactics, as did Bakunine and Stirner. The "philosophical anarchists," such as Tolstoi and Tucker, have advocated a peaceful policy of non-resistance. Godwin and Proudhon may be called anarchistic theorists.

Syndicalism. — Syndicalism is more akin to anarchism than to socialism. The term is derived from the French word for labor union. The syndicalists believe that the emancipation of the working classes is to be achieved, not through control of present government, but by means of, first, the control of industry and, second, government by labor unions. Like the Marxian socialists, they emphasize the class struggle, but advocate "direct action," as contrasted with political methods. They attack the state by ignoring it. Under "direct action" they include the use of general strikes and of other militant tactics, such as sabotage and the boycott. They are extremely pessimistic with respect to the outlook for the laboring classes. This doctrine had its highest development in France about 1908, and exercised for a while a dominant influence upon the French General Confederation of Labor. There is some resemblance between the doctrines of French syndicalism and the policies of the Industrial Workers of the World, — a loosely organized American industrial union made up very largely of migratory or "casual" laborers. The tactics of syndicalism are condemned by the American Socialist party.

Guild Socialism. — This is a relatively recent development in England. In one aspect, it represents an attempt to find a middle road between the "tyranny of collectivism" and the planless anarchy of syndicalism. In another aspect, it reflects the same romantic idealization of the industrial system of the later Middle Ages which one finds in the writings of John Ruskin and William Morris. Its economic theory was for a while substantially Marxian, but some of its spokesmen have de-

veloped a new analysis, in which emphasis is put upon the evils inherent in present methods of financing industry. For the most part, however, its criticism of the present economic order is directed at: (1) the wage system, which involves the "commodity theory of labor," and makes the laborer merely a passive tool, (2) "industrial autocracy," robbing the laborer of independence and of the power of self-direction and self-expression; (3) "production for profit instead of for use"; (4) resting the ownership of property upon other grounds than the social "function" performed by property and its owners. With industry "restored" to the control of the workers, the worker, it is held, could find pleasure in doing good work and producing beautiful things. The general scheme of political and economic organization which the guild socialist envisages is not greatly unlike that described by the anarchist Kropotkin, in the passage quoted above. There is the important difference, however, that the guild socialists looked toward a planned rather than a spontaneous scheme of organization, the central political state remaining, perhaps, as a "distributor of functions" to the different consumers' and regional associations and to the various industrial guilds. The details of the scheme are hazy and incomplete — a charge which could be brought with even more force against other types of socialism — and difficulties suggested by such words as demand, markets, risk, invention, economic change, and the like, have not been squarely faced. Guild socialism has no present political importance. Its strength is not in its constructive program, but in its criticism of the present economic order, which it attacks at some of its weakest points. But progress is not to be made by reversing our steps and going backward to a relatively inefficient system of industrial organization. No scheme of economic reform has a chance of success which does not emphasize efficiency in production. These comments are made at this place because, in our further discussion of socialism, we shall have to confine to ourselves those types which have made larger headway.

The Strength of Socialism. — Socialism makes perhaps its strongest claim in its plea, first, for a scientific organization of the productive forces of society, and second, for a just distribu-

tion of the annual social income. It is said that the present production of economic goods is small in proportion to population, but the socialist replies: "Naturally enough. Competition is wasteful. Two railways are built where one would suffice. Two trains run parallel between two cities where one would serve the public equally well. Three times as many milk wagons, horses, and drivers are required to serve the people with milk as would suffice if the milk business were organized like the mail distribution in cities. Look at the shops, wholesale and retail, and see the waste of human force. Without competition, the dry goods business and the grocery business could be carried on with a third of the present expenditure of energy. Reflect on all the idle classes in modern society. Socialism would set everybody to work, and, making each one dependent on his own exertions for success, would stimulate all energies." The argument is a telling one, but it does not prove its point unless we grant that the present waste and idleness cannot be suppressed or greatly diminished without a departure from the fundamental principles of our present industrial order, or that its waste and idleness are not counterbalanced by advantages which would be lost under a socialistic régime.

The socialist criticism of the present régime is especially severe in the matter of unemployment. There are always some men able and willing to work who are seeking employment, and periodically, with the coming of crises and depressions, the lack of employment becomes widespread. Again, it is urged that today goods are made for sale, not for use, as they would be under the socialistic régime. Adulteration, deception, and "cheap and nasty" goods are the direct outcome of a system of private capitalism. In the socialistic state we are told the business of the shopkeeper is to help you find what you really need; at the present time it is to his interest to persuade you to buy what you do not need or what will give him the greatest profit. The spirit of competition is to the socialist simply warfare. In every business establishment a good deal of effort and expenditure is devoted, not to the production of goods, but to finding a market. Ability to sell is quite as essential in business as the ability to turn out good products.

As to what constitutes justice socialists are not wholly agreed, nor are they clear respecting the precise ways in which justice is to be secured under socialism. A few socialists have advocated an almost mechanical equality, but most socialists today would regard the question of a precise standard for the distribution of income as not of present importance. They are simply agreed that the present system of distribution is unjust. Laborers, skilled mechanics, inventors, poets, authors, engineers, and factory managers, they allege, are the real producers, but they do not get the big prizes.

Justice is a strong plea in the socialist philosophy. It cannot be for one moment claimed that each one's income is at present in proportion to his services to humanity. But there is nothing distinctively socialistic about the desire for distributive justice. It is a feeling that actuates those who work for the control of monopolies, for tax reform, for regulation of inheritances, and for labor legislation. The socialist simply differs in his method of attaining his ideal.

The Weakness of Socialism. — 1. Strong as may be the foregoing indictment of the existing industrial system, it is not sufficient to indicate that socialism is to be the necessary or the desirable outcome. The modern machine age is little more than a century old, and some of its most important phases are very recent. The dire predictions made by Karl Marx and his followers on the strength of some of the earliest phenomena of the factory system have not been borne out, and similarly the evils of today may possibly be very largely eliminated without departing from our fundamental institutions. In short, the first weak point in the socialist's position is that he attempts to predict the course of economic evolution *too far in advance.* That we shall have a juster distribution of wealth in the future, and that we shall eliminate many of the present wastes of production seems probable, but that this will be accomplished by a thoroughgoing socialistic organization is highly improbable. It is desirable to have ideals to work toward, but we should not pin our faith now to a future method for attaining them. Socialism, at its best, is an abstract and vaguely defined ideal. But real progress consists of the specific

and definite steps forward that we are able to take from time to time.

2. The socialist underestimates the *efficiency of the present system*. In particular, he fails to see the significance of the great and (in many respects) smoothly-working system of economic coöperation that has resulted from giving opportunity to free individual enterprise. Today there is a real premium on energy and thrift. Much may be wasted, but much is also produced. That socialism would result in a larger sum total of goods for consumption has never been proved and is altogether unlikely. The present régime is continually offering more and more to the mass of the people. Their standard of life is continually rising. Our economic world is, on the whole, a bettering world. In other respects also, the socialist is too pessimistic with respect to the present. He sees all of the starvation, misery, luxury, and extravagance, but he passes by the millions of comfortable homes scattered throughout the land. He does not see that the world is full of opportunity for the rising generation, that even if the chance for the ownership of a large independent business for the ordinary man is smaller, the things which he can enjoy, if he is of average intelligence and energy, are really much greater in amount and variety than ever before in the world's history.

3. The socialist underestimates the importance of *individual responsibility*. Today a man is confronted by the stern necessity of making his own way, and this must have some good effect upon character. On the whole, the lazy and incompetent are sifted out. Bad heredity and a lack of proper training, as well as lack of fair opportunities, cause a good part of economic misfortune.

4. The socialist underestimates the importance of *free enterprise* in industry. If a man now believes that he can develop a certain industry that will satisfy important wants of the people in the future, he does not need to secure the consent of some government official to make the experiment. The possibilities of a free and spontaneous development should be safeguarded from governmental routine to every possible extent. A characteristic of free enterprise is that it seeks profits *at the risk of loss*. The

socialist forgets the losses and sees only the rewards that go to business success. In short, in an almost blindly obtuse way, he misses the one most essential characteristic of what he calls the "capitalistic" system.

5. Perhaps the most frequently mentioned objection to socialism is the *danger to liberty*. Under socialism, there would be simply the public sphere of employment, and there is reason to fear that the inability to escape from the public sphere would compel the submission to onerous and tyrannical conditions imposed by the administrative heads of the business in which one might be engaged. The socialists, it is true, have a rejoinder in the fact that this objection refers to liberty in the negative sense of freedom from interference rather than in the positive sense of the power to have and to enjoy goods, and yet there is good reason for fearing the tyranny of the majority. Those in whose hands political and economic control centered would have tremendous power, however they might be selected or appointed. Even as a consumer one has today a large freedom of choice and action, which he enjoys by virtue of the competition of producers and dealers. This is not something lightly to be abandoned. Competition, however imperfectly, gives freedom to the individual as producer and consumer. Socialism offers instead a regimented scheme of life, with the individual subordinated to the State. Socialism rests on compulsion; the present economic order, with all of its defects, rests in no small part (not completely) upon free agreement. As in the religious sphere in the past, so in the economic sphere in the future, we may find that compulsory coöperation is incompatible with human nature.

6. The Marxian socialists may be criticized for the importance which they attach to the economic interpretation of history, for the validity of that proposition does not establish the validity of the socialist contention. Even if it be true that our social life is a reflex of our economic activity, it still does not necessarily follow that our economic development is going to be such as will land us in socialism. Their doctrine of the class struggle also does not give an accurate account of existing conditions. We have a laboring class and a capitalist class, it is true, but there is

also a considerable class, perhaps large enough to hold the balance of power between the other two, which does not sympathize exclusively with either laborers or capitalists. Moreover, we have yet other social classes, divided from one another by lines that cut across those separating the capitalists and the laborers. Race is, for example, the basis of a social classification that lessens the unity and cohesiveness of the laboring class. With the coming of universal suffrage and the recognition of the political rights of the laborer the prophecy of the " revolution of the proletariat " has lost all touch with reality. The other economic doctrines of Marx are pretentiously and ponderously formulated, but utterly fail to accord with the facts of economic life.

The Socialist Movement. — In every country of importance, at the present time, there is an organized socialist movement. In Germany, before the war, the Social Democratic party cast more votes than any other political party, although the apportionment of representatives in the Reichstag was such as to keep its representation in that body relatively small. The representatives it had in different years were as follows: 1878, 9; 1890, 35; 1903, 81; 1912, 110; — out of a total of 397 seats. In the election of 1921, the Majority socialists (moderate) won 108 seats out of a total of 469, and the Independent socialists (more radical) won 61. The split in the German Social Democratic party came in 1915, the Independent socialists refusing to support the war policy of the German government. In 1926, the Socialists constituted about one fourth the membership of the elected chamber and in addition the Communists in the election of that year won forty-five seats. Socialism in Germany is largely of the Marxian persuasion, although, as has already been indicated, there have been substantial departures from Marx's position on many points. And many persons have called themselves socialists in Germany who, in a country with a different political alignment, would have been ranked merely as " liberal " or " progressive."

In France there are a number of socialist factions of various degrees of radicalism, nominally united in one party, the factional strife being one of the prominent characteristics of the movement in that country. In some French municipalities, the govern-

ment is almost completely socialistic in personnel. In 1924 the socialists obtained the balance of power in the Chamber of Deputies, came into control of the government, and remained in power during part of the period 1924–1925 when France was having a particularly difficult time in checking the decline in the value of the franc.

In England, no one socialist party has attained the prominence of those in Germany and France. Some of the socialist organizations, however, joined with the trade unions in forming the Labor Party, and this has constituted the opposition party almost continuously since the World War. In 1924 it came into power, with a plurality but not a majority of the seats in Parliament. In the general elections of 1929 it again won a large plurality of the seats, and its leader, Mr. Ramsay MacDonald, became Premier.

In the United States the Socialist Party is the only socialistic political organization that has shown any qualities of strength or permanence. The growth of socialism as a political movement in the United States has been slow, partly because the discontent which expresses itself in socialism exists less in this country, and partly because the trade-union movement, as a whole, has held aloof from socialism. The total socialist vote (including the vote of the Socialist Party and of the much smaller Socialist Labor party) grew from 425,000 in 1908 to 900,000 in 1912, dropped to 600,000 in 1916, and rose to 950,000 in 1920. The Socialist vote in 1924 was largely cast for the Progressive candidate, Senator LaFollette, so that no accurate estimate of the political strength of the Socialist movement in that year is possible. The national election of 1928 registered a decided decline in the Socialist vote, which in that year, despite the appeal of a popular and aggressive presidential candidate, Norman Thomas, totaled only 267,835. Several socialists have been elected to Congress, and many have sat in state legislatures or have held municipal and county offices.

The Bolshevist Movement. — The *Bolshevists*, or "adherents of the majority," are the more extreme of the two camps into which the Russian Social Democratic party split in 1903. Taking advantage of the revolutionary passions that had been brought into being by the downfall of the monarchy, the Bolshevists, in No-

vember, 1917, overturned the Kerensky government, dramatizing their victory as the "revolution of the proletariat." They then installed themselves as the Russian Social Federal Soviet Government, the soviets being councils made up of representatives of occupational and industrial groups, or, in the rural sections, of representatives of districts. In form, the soviets are units in a system of representative government, but, in fact, most of the real powers of government were put in the hands of the Council of People's Commissars, with a membership of seventeen.

The Bolshevists profess to be orthodox followers of Marx, and their policies have been approved by some radical and extreme sects of socialists in other countries. But many Marxian socialists — a majority, probably — hold that Bolshevism is inconsistent with the doctrines of Marx. Russia, such critics say, has not passed through the intermediate "capitalistic" stage which Marx held would prepare the way to socialism. And the so-called "dictatorship of the proletariat," which the Bolsheviki profess to have achieved through their thoroughly autocratic government, and which they call a "transitional stage," is something very different from the democratic organization of society which the more moderate Marxian socialists envisage. The International Socialist Conference at Berne in 1919 held that "the effective development of socialism is only possible under democratic rule."

The economic program of the Bolshevists was in the beginning extremely radical, and involved a complete nationalization of land and capital, with the production and distribution of all commodities put into the hands of the government. The plan, as a whole, was impracticable, and soon broke down. For one thing, the Bolsheviki had to give way on the question of the ownership of agricultural lands, — always a difficult problem for the socialist. The peasants were confirmed in the "possession," and thus for practical purposes in the ownership, of their lands. And the "new economic policies," put into effect in 1921, involved an even larger departure from the principles of socialism. The first step in this "strategic retreat," as Lenin called it, was the substitution of "State capitalism" for "communism." A second step was the legalization of other types of industrial organization, including

(1) a mixed type, owned partly by the State and partly by private capitalists, (2) privately owned enterprises, (3) concessions and leases, from which the State expected to reap royalties or rentals. The State industries, it is important to observe, were put under the charge of State officials, it being deemed especially important that neither the workers nor their unions should take any part in their management.

It is outside of the province of this book to appraise the purely political aspects of the Soviet government. But the socialistic organization of industry which it tried to introduce proved a failure. Russia is so predominantly an agricultural country that no amount of industrial mismanagement can wholly impoverish her so long as her peasants are able to raise their crops. The existing régime may thus continue indefinitely without economic collapse, but economically Russia would probably have been much better served, since 1917, by a system of a private industry than by the experiments of Bolshevist doctrinaires.

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BOOK IV

PUBLIC FINANCE

CHAPTER XXXIV

PUBLIC EXPENDITURES

Nature of Public Finance. — *Public finance deals with the revenues of government, including loans, with their expenditure, and their administration.* Public finance is one part of economics. Like general economics, it deals with the means for the satisfaction of human wants. Some of our wants we satisfy in one way, some in another. Some we satisfy individually. Some we satisfy through private associated effort. Others we satisfy through public collective effort, that is to say, through some governmental agency. The wants which we satisfy through governmental agency are not all of them so peculiar that they could not be satisfied either through private individual activity or private associated activity. Take the case of watering the streets. There are places in which the streets, in so far as they are watered at all, are watered by individuals in their private capacity, each man watering the street in front of his own house with his own hose. There are other places in which the householders join together and pay some one to water the streets for them, and do this privately. There are still other cities in which the city government employs persons to water the streets and pays them from the proceeds of taxation.

There are, to be sure, some wants which are satisfied through governmental agency, and which a civilized community will not allow us to satisfy privately. This is the case with those wants which are satisfied by means of the police and the courts. It is a peculiar function of government in modern times to provide security of person and of property. This requires economic resources, just as the satisfaction of the other wants mentioned does, and public finance has to do with the provision of those resources.

Public finance, then, is a part of economics because it deals with the satisfaction of wants by the use of economic resources. It is also a part of economics, because it exerts a powerful and, at times, a dominating influence upon the production, distribution, and consumption of wealth. A tragic illustration of this truth was seen in the recent state of Europe, where a general failure to balance budgets threatened to " delay economic recovery indefinitely."

The Increase of Public Expenditures. — The significance of public finance may be brought before us by examination of, first, the enormous aggregate of public expenditures at the present time; and second, the rapid increase of these expenditures during the last century. During the World War public expenditures reached totals the significance of which it is difficult for the mind to grasp. The World War cost, up to the close of the year 1919, over two hundred billions of dollars, converting foreign currency at pre-war rates of exchange, or over eighty-four billions expressed in gold dollars with a purchasing power as of the year 1913. During the month of December, 1918, our war expenditures averaged nearly sixty-five million dollars a day. A dim notion of the magnitude of these figures may be gathered from the statement that less than one billion minutes elapsed between the birth of Christ and the beginning of the twentieth century. It has been estimated that the war cost noted above represented about 15 per cent of the prewar national wealth of the countries involved, and in the case of the Central Powers over 25 per cent.

Even more significant is the fact that public expenditures have been rapidly increasing for more than a hundred years. This increase has been greater than the increase in population, and many authorities think greater than the increase of national wealth and income, although the latter conclusion is doubtful.

In seeking to ascertain the fundamental cause and meaning of this world-wide increase in public expenditures, it will be helpful to clear the ground of erroneous explanations which have been offered. In the first place, it is not due to the spread of democratic government, inasmuch as the increase in countries where political democracy was not introduced until recently has been

as great as in other countries in which real democratic government prevailed. Neither can the increase be wholly explained by war and militarism. It has characterized countries such as Switzerland, Holland, and Sweden, as well as Germany, Russia, France, and other countries in the budgets of which military expenditures have played a more important part. Nor has the increase been caused by any socialistic trend towards government ownership. In general, public service enterprises conducted by the State pay their way or more than pay their way; and the recent statistics of American states and cities indicate not only that such enterprises impose no net financial burden upon the community, but also that their relative importance in the budget is not increasing. The preceding statement should not be interpreted as an argument for government ownership, which, in the opinion of the authors, is neither expedient nor inevitable. But financial history contains ample warrant for the conclusion of H. C. Adams that the facts "do not lend their support to the prevailing idea that government in these latter days is encroaching upon the domain of private initiative and that coercive association is expanding more rapidly than voluntary association." [1] Finally, the increase in public expenditures does not signify increasing extravagance or increasing corruption. Quite the contrary. While modern government is characterized by waste, inefficiency, and extravagance, it is throughout the civilized world probably better than it has ever been before. Taking the civilized world as a whole, there probably never was more honest government or more efficient government than there is today.

The fundamental cause or meaning of this increase is twofold: on the one hand, war and militarism; on the other hand, an increasing *socialization of consumption*. We are living in a period of increasing public coöperation. We think we find it more advantageous to satisfy certain wants, growing in number and significance, through public coöperation than through individual effort or private coöperation. This is the chief significance of the increasing governmental budget throughout the civilized world. Expenditures for education, police protection, public lighting, and

[1] *Science of Finance* (H. Holt and Co., New York, 1924), p. 85.

sanitation are things which, so far as outlays of magnitude are concerned, belong to the nineteenth and twentieth centuries. The scope of the police power is expanding in the United States, and this means expansion both of public revenues and public expenditures. The discussion of public expenditures reveals, as few other subjects do, the nature of our civilization. Educational expenditures afford perhaps the best illustration of the general tendency. They run up into hundreds of millions in the modern nation, whereas previously to the nineteenth century they were insignificant. As is shown in the following table, the various divisions of government in this country spend more for education than for any other purpose or function.

War and Militarism. — The budgets of the national or central governments of the world are dominated by war costs. This is true not only of foreign countries, but of the United States as well. Before the World War expenditures for the army, navy, pensions, and interest upon old war debt absorbed approximately two thirds of the federal expenditures (excluding postal expenditures covered by postal receipts). And this is even more true of post-war expenditures, as appears from the statistics of federal expenditures given in Table XLII. Protection — chiefly military expenditures — debt redemption and interest — both due principally to war — represented 77.9 per cent of the gross total. Excluding interest and debt payments, the military or protective expenditures constituted over 60 per cent of the "net total" expenditures. What Professor C. J. Bullock said of federal expenditures twenty-five years ago is still true today: "Thus it appears that our federal government is, on the financial side, mainly a huge machine for collecting taxes in order to defray the direct and indirect cost of war." [2] During the World War, expenditures for education, for public works, and for scientific and developmental work, were all checked and in some cases absolutely reduced. The proportionate amounts expended by the federal government upon scientific research and developmental work are small at best. War reduces even these minima.

[2] C. J. Bullock, "The Growth of Federal Expenditures," *Political Science Quarterly*, Vol. XVIII (March, 1903), pp. 97–111.

TABLE XLII

Functional Distribution of Combined Governmental Expenditures, Fiscal Year 1926, Computed by National Industrial Conference Board [3]

Purpose of Disbursement	Amount (in Millions)			Percentage Distribution					
				Federal [a]		State and Local [b]		Total	
	Federal [a]	State [b] and Local	Total	Net Total	Gross Total	Net Total	Gross Total	Net Total	Gross Total
General government	$ 354.8	$ 515.1	$ 869.9	15.9	9.0	7.7	6.7	9.7	7.5
Protection	1,363.4	720.1	2,083.5	61.1	34.6	10.7	9.4	23.3	17.9
Education	15.6	2,242.9	2,258.5	0.7	0.4	33.4	29.2	25.3	19.4
Highways	102.6	1,544.6	1,647.2	4.6	2.6	23.0	20.1	18.4	14.2
Economic development	151.7	64.1	215.8	6.8	3.9	1.0	0.8	2.4	1.8
Social welfare	71.4	981.4	1,052.8	3.2	1.8	14.6	12.7	11.8	9.1
Miscellaneous	2.2	158.7	160.9	0.1	0.1	2.4	2.1	1.8	1.4
Public utilities	169.6	487.3	656.9	7.6	4.3	7.2	6.3	7.3	5.6
Net total	$2,231.3	$6,714.2	$ 8,945.5	100.0	56.7	100.0	87.3	100.0	76.9
Debt redemption	873.1	337.6	1,210.7	—	22.2	—	4.4	—	10.4
Interest	831.9	639.5	1,471.4	—	21.1	—	8.3	—	12.7
Gross total	$3,936.3	$7,691.3	$11,627.6	—	100.0	—	100.0	—	100.0

[a] Total of federal expenditures on daily treasury statement basis, distributed functionally on warrant basis.
[b] Excludes federal aid except for $9 2 millions which cannot be eliminated in the function distribution.

[3] From National Industrial Conference Board, *Cost of Government in the United States* (New York, 1928), p. 11.

FEDERAL EXPENDITURES: 1920[4]

	Per capita	Per cent
PAST WARS		
Pensions and care of soldiers	$ 3.09	5.8
Obligations arising from war	15.36	28.7
Interest	8.73	16.3
Surplus for reduction of public debt	10.15	19.0
Total past wars	37.33	69.8
ARMY AND NAVY	12.68	23.8
Total military expenditures	50.01	93.6
Primary governmental functions	2.11	3.9
Public works	0.80	1.5
Research, education, and development	0.54	1.0
Grand total	$53.46	100.0

A great war ordinarily lifts the expenditures of the nations involved to permanently higher levels. After peace has been established there is likely to be a temporary reduction of expenditures, particularly of military and national expenditures; but in a few years (in some cases almost immediately) expenditures for developmental and local purposes expand rapidly, pension payments are likely to increase, and "the majestic march of costs goes on undisturbed." In Europe, during the period of restoration and reconstruction, conditions were extraordinary. While some countries, such as Great Britain, greatly reduced their expenditures after the World War, in other countries, such as Belgium, Italy, and Germany, the expenditures in 1921 were greater than those in 1920; while in most of these countries the deficit in 1921 was greater than the deficit in 1920. French expenditures for the year 1921 exceeded 40 per cent of the national income, or, deducting the amount the French hoped to recover from Germany, 30 per cent of the national income; while tax receipts amounted to only 18 per cent of the national income. In Italy expenditures in 1920 amounted to about 30 per cent of the national income, while actual revenues were only 13 per cent. In the United Kingdom in 1920, expenditures of the national government alone exceeded 20 per cent of the national income. In the United States it is

[4] E. B. Rosa, "Expenditures and Revenues of the Federal Government, *Annals of the American Academy of Political and Social Science* (May, 1921) Vol. XCV, p. 9.

estimated [5] that the aggregate taxes collected by the national, state, and local governments absorbed 7.2 per cent of the national income in the year 1890, 6.4 per cent in the year 1913, 15.9 per cent in the year 1921, and 11.9 per cent in the year 1927. While the expenditures of the federal government were rapidly reduced after the war, state and local expenditures increased so rapidly that, taking into account the shrinkage of national income due to depression in 1921, the percentage of the national income absorbed by taxes in that year was greater than during the war.

The Proper Proportion between the Total Income of Society and Public Expenditures. — Attempts have been made to give estimates of what is a large public expenditure, what a small expenditure, what is desirable, undesirable, or even intolerable. One writer speaks of public expenditures of 16 per cent as average and 25 per cent as excessive. Another regards public expenditures which consume 15 per cent of the total annual wealth production as the upper limit. In our American practice, we very generally attempt to fix a maximum direct tax rate. But these limits are usually based on the valuation of property and not on income. State constitutions very frequently also limit state expenditures, as well as the expenditures of cities and other local units. For local purposes, we have roughly a tax limit of one half of 1 per cent to 3 per cent of the value of property. Total taxation of real property frequently runs in the United States from 20 per cent to 30 per cent of the net profits, and indeed not infreqently goes far beyond that. The truth is that it is absolutely impossible to give any general answer to the question, "What is the proper proportion between the total income of society and public expenditures?" Variations in the wealth of a country have to be considered, and these mean much when the question of additional expenditure is raised. Variation in tax systems and the consequent distribution of the burden of taxation make a wide difference. In times of distress, more can be expended than on ordinary occasions. When the national life of the State is endangered in a war, expenditures will be incurred which would be impossible at any other time,

[5] National Industrial Conference Board, *Cost of Government* (New York, 1928), p. 63.

simply because for any other purpose the people would not submit to the sacrifice involved.

But there are other points of view which go still deeper. Why do we spend money at all through the State? Obviously to satisfy needs. How much we should spend publicly depends upon what needs are satisfied publicly. We have to ask and answer the question, "What position do these needs hold among our needs in general?" "Do they belong to our necessities or superfluities?" When we consider public expenditures in the broadest terms, we must take into account the amount of production which is carried on by the State. If the railways are State railways, a larger percentage of the expenditures and revenues of the country are public in character than would be the case if they were privately owned and operated. No comparison of expenditures of various countries can have any value, if it does not take into account considerations of this kind.

In fact, except as a concrete historical problem, it is impossible to state how great the public expenditures should be. We are now in a position to understand why it is that the nations of the world are not ruined by expenditures which even a generation ago would have been thought crushing, and one hundred years ago would have been inconceivable. We satisfy our needs to an ever increasing extent through public agencies. This finds expression in the *law of increasing public expenditures* formulated by the late Professor Adolf Wagner.

"*Comparisons between different countries and different periods show regularly among progressive nations an extension of public activities. This manifests itself extensively and intensively. The State and its subordinate political units continually undertake new functions, and they perform their duties, old and new, better and better. In this way, that is, through public agency, the needs of the population, especially their common needs, are satisfied to an increasing extent; and the public services for the satisfaction of needs continually improve in quality. The clear proof of this is given statistically in the increased demands made by the State and the subordinate political units.*" [6]

[6] Wagner, *Grundlegung der politischen Oekonomie* (Leipzig, 1892, 3d ed.), Vol. I, p. 893.

Extravagance, Economy, and Parsimony in Public Expenditures. — After a definition of economy in Webster's *International Dictionary*, we find the following: "Economy, Frugality, Parsimony. Economy avoids all waste and extravagance, and applies money to the best advantage; frugality cuts off indulgences, and proceeds on a system of saving. The latter conveys the idea of not using or spending superfluously, and is opposed to lavishness or profusion. Frugality is usually applied to matters of consumption, and commonly points to simplicity of manners. Parsimony is frugality carried to an extreme, involving meanness of spirit and a sordid mode of living. Economy is a virtue and parsimony a vice."

We must have clear ideas as to which course of the three we shall follow, for it is scarcely to be taken for granted that we shall follow the course of extravagance. There is, however, danger of indifference as to the size of public expenditures, and extravagance may result therefrom. Sectionalism often results in extravagance, and this shows itself badly in the United States at times. Whatever any state can secure from the federal treasury is often looked upon as so much clear gain. This was clearly brought out in the discussions concerning the repayment, several decades ago, of the direct tax that had been paid by the states to the federal government. This tax has now been repaid, but many states gave agents large and extravagant sums to work for the refund. Sometimes sectionalism manifests itself even in cities. In one section of the city there may be vigorous efforts to secure money for itself without due regard for the general interest.

During the decade 1880–1895, in this country, federal taxes were laid very largely for other than revenue purposes, and there was no careful balancing over and against one another of probable revenues and probable expenditures, with the result that there was frequently a large surplus in the federal treasury. There never has been a time when it would not have been possible to have expended wisely the entire revenues of the federal government; *e.g.* educational expenditures might have been increased. But there was no demand for these expenditures strong enough to prevail, and the outlet was found along the lines of least resistance,

or, perhaps it ought rather to be said, along the lines of greatest "pull." We may then lay it down as a general law that *there is danger of extravagance whenever public revenues outrun felt needs.*

From 1919 to 1928 somewhat similar conditions prevailed, but under wise guidance the huge surpluses were used to retire the public debt and reduce the burden of taxation. During the nine years in question the federal debt was reduced about $780 millions per year on the average, or taking into account the reduction of the huge Treasury balance carried in 1919, about $875 millions annually.

In the domain of local government it is possible to limit taxes or expenditures, and, as stated above, American statute books are full of laws prescribing maximum rates for school, highway, and other tax levies. These laws have failed in the past because they were adjusted to our prevailing underassessment of property, and it was easy to evade them by raising the assessment a little closer to the true value. More recently, however, Colorado and several other states have adopted "tax limit laws" which work more effectively. Instead of limiting tax rates, the total tax levy or the total expenditures are limited to a certain increase, say 10 per cent, over the tax levy or total expenditures of the previous year; and some authority — usually the state tax commission — is empowered to raise the normal limit in "cases of emergency or urgent necessity." Tax limit laws applied in an arbitrary way may cripple, and in some cases have crippled, municipal governments in necessary and desirable expansions of public activity; but when administered by a wise board or commission authorized to modify the ordinary limit when necessary, they are capable of restraining harmfully rapid expansion of public expenditures.[7]

There is a tendency, especially wherever public spirit is not highly developed, to favor parsimony, and to regard that as the best administration which spends least, and the smallest tax as the best tax. This idea was particularly encouraged by those who looked upon government expenditures as external to the life

[7] See discussions of this subject in *State and Local Taxation*, Proceedings of the National Tax Association (The Macmillan Co., New York, 1908), Vol. VIII, pp. 368–390, and Vol. IX, pp. 452–473.

of the people — as if they were expenditures for some outside person. This idea, indeed, may be traced back to monarchical government and to a time when royal courts consumed a large part of the public revenue. The smallest expenditure means the accomplishment of the fewest purposes. Parsimony means meanness, and can never be the rule either of public or private financiering. Frugality is the rule when it is a necessity. Economy is the sound rule; and this means a broad and liberal policy and a husbanding of resources. The wise citizen judges any particular administration either in the nation or the state, not chiefly by the *amount* of public expenditures, but by the *results* of public expenditures, appreciating full well that increasing public expenditures are a normal condition in a sound and healthy society.

The Development of Public Expenditures. — It is instructive to consider the historical order in which the objects of public expenditure appear. This order throws a strong light upon the evolution of industrial society and of civilization in general. It can be presented here only on the most general terms, and in these terms it is somewhat as follows: Expenditures for (1) external security; (2) security within the community; (3) promotion of material interests; (4) benevolence (transferred in part from the Church at the time of the Reformation); (5) education in its various phases; (6) labor.

In a general way the organization of the departments of the federal government corresponds with this order. In 1789, the Treasury, War, and State departments were organized, also the Department of Justice, Supreme Court, and the Navy Department; the Post-office Department was organized as a distinct department in 1829; the Department of the Interior was organized in 1849; the Department of Labor as a separate department (without representation in the Cabinet) in 1889; the Department of Agriculture as a separate department (with representation in the Cabinet) in 1889; the Department of Commerce and Labor (with representation in the Cabinet) in 1903. In 1913, Commerce and Labor were divided and given separate representation in the Cabinet.

In recent years the federal government has spent more than

$5,000,000 annually "to promote the interests of labor." Even more interesting has been the appearance of appropriations in the national budgets to foster international agreements and arrangements in the interests of labor. In 1900, the International Association for Labor Legislation was formed, and its permanent Bureau was established at Basle, Switzerland, in 1901. As the competition of labor and capital was international, it had, in the opinion of many careful observers, become necessary to safeguard the interests of labor by international agreements. Consequently, we find that this international association received subsidies from most European governments, and a small one from the United States through our federal Department of Labor. In 1905, an international treaty was entered into by Italy and France for the advancement of the interests of labor and for mutual protection of employers. After the war this international movement was officially recognized in the treaty of Versailles, and an International

NATIONAL EXPENDITURES OF FRANCE: 1789 [8]

MINISTRY OR SERVICE	LIVRES [a]
Cost of collection and reimbursements (does not include cost of collecting taxes farmed out)	31,478,000
Consolidated debt — including portion made up of annuities	162,486,000
Interest, etc., on remaining portion of debt	80,527,000
Pensions	29,560,000
Royal family and princes	33,240,000
War	100,548,000
Marine and colonies	40,900,000
Foreign affairs	7,480,000
Justice	6,353,000
Interior	8,249,000
Financial administration	5,801,000
Public works, agriculture, and commerce	11,907,000
Public instruction and fine arts	1,227,000
Public worship	2,188,000
Total	521,944,000

[a] A livre is slightly — say 2 per cent — less than a pre-war franc.

[8] Necker's "Budget," May, 1789, rearranged by the author of the article in the *Dictionnaire des finances*.

NATIONAL EXPENDITURES OF FRANCE: 1913, 1920[9]

Including Ordinary, Extraordinary, and Special Accounts
(in Millions of Francs)

MINISTRY OR SERVICE	1913	1920
Debt Charge	958	11,269
Pensions[a]	326	859
War Pensions		4,909
Public Powers	20	38
Ministries		
Finances	57	1,779
Justice	61	148
Foreign Affairs	21	318
Interior	150	597
Army	1,262	5,459
Navy	553	1,009
Colonies	103	313
Worship	*f*	
Agriculture	55	179
Commerce	8	15
Industry	8	*e*
Public Works[b]	394	4,751
Education and Fine Arts	328	1,378
Pensions		1,058
Hygiene, etc.[c]		1,713
Labor	85	154
Cost of collecting revenues	627	*h*
Reimbursements, Restitutions, and non-valeurs	51	
Special Accounts		5,736
Algeria	*g*	*g*
Alsace-Lorraine		725
Liberated Régions[d]		15,709
Total	5,067	58,116

[a] The pre-war civil and military pensions known as *Dette viagère*, *i.e.* "life debt" or "life annuities."

[b] Includes Post Office and Telegraph and Telephone.

[c] Includes Hygiene, 393; Revictualling, 1311; Stocks, 9.

[d] Total cost of reconstruction was 16,484. This includes the 15,709 for the liberated regions and certain relatively small items incorporated in other accounts listed above.

[e] Included in Public Works.

[f] Discontinued in 1905.

[g] Not given in statement. Presumably included in figures for ministries.

[h] These totaled 2709 in 1920, but the amount is distributed in the various accounts.

Labor Office is now financed by and conducted in close connection with the League of Nations.

[9] H. E. Fisk, *French Public Finance* (Banker's Trust Co. New York, 1922), p. 182.

When we compare modern times with ancient times, we find that an increasing proportion of the public expenditures are incurred for objects which directly benefit the people, and relatively a decreasing amount for objects in which they have comparatively little concern. This finds most striking exemplification in a comparison of the budget of France in 1789 with the expenditures for 1913, which we take merely as a typical modern peace budget. The expenditures for 1920 have been placed in comparison with those for 1913, to give some idea of the financial effects of the World War. It will be observed, in comparing these budgets, that the French court consumed a very large proportion of the aggregate expenditures of 1789; and that of what remained a very large proportion was consumed by the public debt, the army and navy; and that for education and the promotion of general welfare the expenditure was relatively insignificant.

The Test of Successful Financial Administration. — Professor Henry C. Adams formulated in a suggestive way what may be called the optimistic view of public expenditures. He classified expenditures into three great groups: protective, commercial, and developmental. "The protective functions of the State tend to decrease in their claims upon the social income. This is true because the protective functions of government minister to social development by repressing the unpropitious forces in society, thus giving the propitious forces an opportunity to operate. . . . The success of the repressive activities of the State tends to curtail the necessity of their exercise." With respect to the State's commercial functions Professor Adams concluded that, because the receipts ordinarily balance or exceed the costs, this class of expenditures has "nothing to do with the theory of public expenditures. So far, however, as they are general in character it is probable that they will increase rather than decrease with social development." With respect to developmental expenditures, he found that "they tend constantly to increase with an increase of social intelligence and with the progress of social differentiation." Upon this analysis, Professor Adams found the test of successful administration "in the relative amounts which from time to time are assigned to the

several chapters of the budget. As a rule, a possible exception being made for military expenditures, the older the protective function the less will be the percentage of aggregate expenditures assigned to it, while the newer the developmental function the greater will be the relative demand which it makes for the funds to be placed at its disposal." [10]

Judged by this test, the statistics of expenditures indicate that the financial management of American states and cities is hardly "successful." If we compare the newer and less densely populated sections of this country with the older and more thickly populated sections, it will be found that while the percentage of the total expenditures devoted to general government and the courts is lower in the latter, the proportionate expenditure for police, fire protection, and other miscellaneous protection, is higher; that the percentage for health conservation, for drainage and sanitation, is higher; but that the percentage for education is lower.

Similar results emerge when we compare the expenditures of smaller with those of larger cities. As we pass from cities having from 30,000 to 50,000 population up to those having more than 500,000 population, we find that the proportionate expenditures for general government and police protection increase, while the proportionate expenditures for education decrease. Here apparently is a striking exception to the normal law laid down by Professor Adams. And while the proportionate expenditures devoted to conservation of health, sanitation, charities, hospitals, and corrections increase slightly, it is doubtful whether this means greater service or greater need for service in these lines. In the case of fire protection and highways, however, there is a distinct and wholesome decrease in proportionate expenditure as we move from the smaller to the larger cities.[11] Crowding population not only brings higher per capita expenditure, but it brings also, apparently, greater need for health precautions and police protection, and greater necessity for — at least greater resort to — governmental activity in general. And so great is the drain of these special needs upon the resources of the community that a smaller and not a larger

[10] *Science of Finance*, pp. 79–82.

[11] See Bureau of the Census, *Financial Statistics of Cities*, 1926, Table 14, p. 336.

share of the expenditures is devoted to education. One conclusion in this connection is apparently certain. American state and local government, particularly city government, is not subject to the law of decreasing expenses. The larger the population to be governed, the higher the necessary cost of government per head.

Budget Control, Economy, and Efficiency. — It is impossible in a single chapter even to touch upon all of the important phases of the subject of public expenditures, because it involves all of the questions which arise in the financing of modern government, and is as broad as the subject of government itself. Because of this truth, it is vitally necessary that the financial aspects of modern government be so presented that the average citizen, with the knowledge and amount of time at his command, can get an intelligent grasp upon the facts and issues involved.

Until quite recently in many jurisdictions, the fundamental facts have not even been available. Public accounts were so poorly kept and the statistics of expenditures and receipts published in such a confused and unscientific form, that no one but the expert could understand or helpfully discuss them. This situation in recent years has been materially improved. The federal government has adopted a budget system; Congress has greatly simplified the legislative aspect of the problem by creating single appropriation committees in the House of Representatives and the Senate; and the statistics of expenditures and receipts, as well as those of estimates and appropriations, have in recent budget messages and statements been classified and presented in a way which leaves little to be desired.

A number of state governments, many city governments, and an increasing proportion of county, town, and village governments, have similarly adopted budgetary laws, or have been brought under such laws; and in increasing degree the statistics of past expenditures and proposed appropriations are being presented so that the newspapers and those citizens who are interested can, without undue trouble, ascertain what has been done and what is proposed for the immediate future.

It now becomes the duty of each citizen to formulate and exercise an intelligent judgment on proposed expenditures. In few

departments of public life has there been so much superficial talk and so little solid thinking shown as in the discussion of public expenditures. Most of this discussion centers around economy, efficiency, and the reduction of taxes. Few purposes could be more worthy. Waste and corruption are grave evils in themselves, irrespective of their effects on the tax rate. But they become doubly offensive when they increase the heavy burden now resting upon the taxpayer. Every sound proposal to eliminate waste, therefore, deserves support.

But, in the long run, it will be realized that *if tax rates are to be materially reduced, it can only be achieved by decisions of policy*. Underpaid public officials neither achieve economies nor reduce tax rates. Elimination of petty waste, although desirable in every way, will not materially reduce tax rates. If tax rates are to be reduced, we must not only abstain from war, but also cut down expenditures on schools, ship subsidies, soldiers' bonuses, highway improvement, railway aid, and the like. The reduction of public expenditures is primarily a question of political policy, not a question of waste and graft. And we have little doubt what the general answer to such a question of policy will be. Government activities will not be abandoned; expenditures will not be reduced. Wisely or unwisely, as President Wilson has said, "The people of the United States do not wish to curtail the activities of their government, they wish, rather, to enlarge them; and with every enlargement, with the mere growth of the country itself, there must come, of course, the inevitable increase of expenses." [12]

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CHAPTER XXXV

PUBLIC RECEIPTS FROM LOANS AND GOVERNMENT OWNERSHIP

Revenues to meet the great and increasing public expenditures described in the preceding chapter may be raised in four different ways — by borrowing, by receipts derived from government property or business, by the issue of paper money, or by taxation. The first two sources of revenue are discussed in this chapter.

Revenue from Loans

Public Credit. — The principal use of the public credit is to meet extraordinary or irregular expenditures. In the case of a great calamity, such as the San Francisco fire, borrowing is obviously necessary and legitimate. Borrowing, also, is plainly warranted for the acquisition or construction of revenue-yielding property or business enterprises. It may be unwise on the part of a government to embark on commercial or quasi-commercial undertakings, but if the revenue obtainable promises to cover all costs including interest on the capital invested, there is no fiscal objection to borrowing all or part of the capital.

At the other extreme are the ordinary expenditures of government, those which recur with sufficient regularity so that they can be foreseen and estimated in advance. If the State cannot meet these without borrowing, it is a confession that ordinary expenditures are in excess of the disposable surplus of the nation — a condition which means bankruptcy if continued long enough. Obviously, temporary deficits resulting from a failure of ordinary revenue to meet ordinary expenses should not be allowed to accumulate and then be funded as a permanent debt. This is a vice of boss-ridden government, which goes far to explain the rapid

growth of American municipal indebtedness in the last half of the nineteenth century.

Midway between the extraordinary and the ordinary expenditures is a class represented by expenditures for school buildings, roads, court houses, and the like, which are not self-supporting but which, if paid for from the ordinary revenue of a single year, might cause a disturbing and perhaps injurious increase in the tax burden. Whether debt should be contracted to meet such expenditures can best be decided in particular cases; but if loans are raised for such purposes, provision should practically always be made for their amortization or extinguishment, by the time the property wears out or becomes obsolescent, through sinking funds or serial maturities. Great mischief in state and local finances has resulted from the practice of issuing bonds maturing in 20, 30, or even 50 years to improve highways which have to be resurfaced in 5 or 10 years. And in states or large cities, where there are enough schools or highways to regularize capital expenditures for building or construction, *i.e.* where approximately the same aggregate outlay comes to be necessary each year, it is far better in every way to meet such capital costs out of ordinary revenue.

It is common in this country to place restrictions on the issue of local indebtedness, and the constitutions of a few states prohibit or similarly restrict the issue of state obligations. It is entirely proper to impose restrictions upon public indebtedness contracted for purposes which are fiscally non-productive. Such restrictions are most effective when they limit the *increase* of indebtedness, not its absolute amount, and, for reasons which have been stated on page 748, they should not be expressed as a proportion or per cent of the assessed valuation of taxable property. On the other hand, few if any restrictions should be placed upon borrowing for the purpose of acquiring income-yielding property, although important projects of this kind should be subject to public approval by referendum. For restrictions place states and cities at a disadvantage as compared with private corporations. They also operate to throw into the hands of private corporations enterprises which cannot be paid for out of one year's revenue and yet might advantageously be acquired by the public. The problem of govern-

ment ownership should be decided on its merits and not be blocked by purely fiscal obstacles. Rigid limitations, which prevent municipalities from offsetting part of their debt by the value of water works, lighting plants, and other assets which yield monetary return, have no place in a scientific system of public finance.

While not absolutely required by theory, it is expedient as a matter of practical political psychology to make provision for the extinction of all public debts within a reasonable period. The *sinking fund* is the device most frequently used for this purpose. Thus, in 1920 Congress authorized the introduction of a sinking fund, to which about $350,000,000 a year is now contributed, for the support and extinguishment of the war debt. If carried through on the appointed schedule, this will extinguish the war debt (in excess of the so-called "Allied debt") about the year 1945. The war loans were so colossal and were floated under such extraordinary conditions, that the sinking fund was probably the only method of amortization that could have been employed. But in general, American experience indicates that the sinking fund is a cumbersome and ineffective method of accomplishing the desired end. It is likely to be neglected or repealed. Bonds which automatically mature in recurring installments offer a much better device for the retirement of public debts, particularly the debts of the minor political subdivisions. And it is significant that the federal treasury's able handling of the national debt since the war has had as its chief objective the refunding of the debt, so that the maturities will occur with approximate regularity year by year. The serial bond "can usually be placed at a lower rate of interest than a sinking fund obligation. It is free from most of the possibilities of political abuse and manipulation to which sinking funds are exposed. It substitutes a plain and certain for an uncertain or complicated liability; and it compels the administration which contracted the debt to begin its retirement immediately." [1]

Growth of Public Debts. — Abuse of public credit is responsible perhaps for the gravest economic problems of the post-war period. Swollen by war, the public debts of the world have reached pro-

[1] Report of the Committee on Increase of Public Expenditures, *Proceedings of the National Tax Association*, Vol. IX, p. 465.

portions which are well-nigh incomprehensible. Our national debt was increased twenty-five fold by the war. The British national debt, about 700 million pounds when war was declared in 1914, rose to more than 8000 million pounds at the close of the year 1919. The French national debt, about 34 billion francs at the outbreak of the war, rose by 89 billion francs in the year 1919 to a total of 240 billion francs at the end of that year, and continued to increase after the war, until in 1921 it exceeded 300 billion francs. With regard to some of the countries of eastern and central Europe, it has been aptly said: "One may suspect that the governments of these countries do not even know the exact volume of their present debts."[2] For the most part these debts must be repudiated either openly or by debasing the currency in which the obligation is expressed. The best that can be hoped for, in most cases, is that the country involved "will grow up to its debts," until by the growth of wealth and business the burden of the debt service will become bearable.

In the United States the situation is and has been more reassuring. Between the close of the Civil War and the outbreak of the World War, the burden of the public debt was greatly reduced. The principal statistical facts are summarized in Table XLIII on the following page.

The per capita indebtedness of the country was reduced from $82.99 in 1870 to $49.97 in 1912. And compared with the wealth of the country, the showing was even more favorable. According to Census estimates, the public debt covered only $2.58 of each one hundred dollars of the national wealth in 1912, as against $2.85 in 1902, $3.06 in 1890, $6.97 in 1880, and $10.64 in 1870. (The corresponding figure in 1922 was $9.61.)

Conditions were revolutionized by the World War. While this country was actually in arms, the states and cities patriotically refrained from unnecessary capital expenditures. The cities practically met all of their expenses by taxation, while the states in the fiscal year 1918–1919 actually raised by taxes enough to meet all current expenses and cut down their total indebtedness

[2] Bass and Moulton, *America and the Balance Sheet of Europe* (The Roland Press, New York, 1921), p. 46.

TABLE XLIII

Public Debt of the United States
(Debt Less Sinking-Fund Assets)

	Total in Millions of Dollars					Per Capita				
	1922	1912	1902	1890	1870	1922	1912	1902	1890	1870
Total	$30,846	$4,850	$2,839	$1,989	$3,200	$283.70	$49.97	$35.99	$31.76	$82.99
National government	22,156	1,029	969	852	2,331	203.78	10.59	12.22	13.60	60.46
States	936	346	239	211	353	8.64	3.57	3.03	3.37	9.15
Minor divisions	7,754	3,476	1,630	926	516	71.32	35.81	20.74	14.79	13.38

by approximately $35,000,000. The total interest-bearing debt of the federal government, however, rose from $971,562,590 on June 30, 1916, to $26,596,701,648 at the war debt's peak on August 31, 1919. The interest on the federal debt at the end of the war was greater than the entire cost of running the federal government at the beginning of the war.

But after the war, the states and cities began to increase their debt, while the federal government entered upon a systematic program of debt reduction. Before the war the annual issue of states and municipalities had averaged less than $500,000,000; but in 1919 the issue rose to about $770,000,000, which increased to nearly $1,500,000,000 in 1927. The federal debt, on the contrary, was reduced by nearly $10,000,000,000 (*i.e.* to $16,931,000,000) in the ten years ending June 30, 1929. The best estimates indicate that the indebtedness of state and local governments at the close of the year 1927 approximated $11,750,000,000. This indebtedness is practically exempt from income and property taxes, and this exemption creates a serious fiscal and social problem which is briefly discussed in the following chapter.

Loans and Taxes in War Finance. — On our entrance into the World War there was much talk about "conscripting wealth" as we later conscripted men; and a number of economists earnestly contended that the entire cost of the war should be paid by taxation. At best this was a counsel of perfection. It is doubtful whether any great war could be financed without inflation. It is certain that no great war can be financed solely by taxation. This is an unfortunate truth, but it is a truth. The United States, in this respect, made the best record of any of the great nations engaged in the war, but of the special expenditures attributable to the war from our entrance to the close of the fiscal year 1920, only about 32 per cent was defrayed from special war taxes.[3] Taking all the

[3] *Annual Report of the Secretary of the Treasury*, 1920, p. 105. The net cost of the war from April 6, 1917 to June 30, 1920, was estimated at $33,455,000,000 and the net war-tax receipts at $10,703,000,000. The net cost of the war, excluding loans to foreign governments, was estimated at $24,010,000,000, and on this basis 44.5 per cent of the special war expenses was covered by war taxes. If we assume that these foreign debts are worth 50 cents on the dollar, it follows that about 37 per cent of the special war expenditures was met by special war taxes. Up to June 30, 1928, the Treasury estimated

belligerents and closing the accounts for most of them in the year 1919, Professor Seligman estimated that the total cost of the war amounted to more than $210,000,000,000; that the aggregate debt of these countries was increased by the war in the amount of $196,000,000,000 (from $28,000,000,000 before the war to $224,000,000,000 at its close); and that accordingly "the war was conducted almost entirely on credit." [4]

It is not difficult to see why the public credit must be extensively used during a great war. It is the task of the Treasury to absorb or obtain control of all the savings of the nation, to the extent that they are not directly applied to war activities, and to augment these savings as much as possible both by encouraging thrift and by discouraging unnecessary consumption and production. This must be done without unduly repressing industries essential to the successful prosecution of the war. But taxation must be by general rule. It cannot be concentrated upon the non-essential industries and entirely lifted from the essential industries. Our sense of justice would prevent such a system of taxation, if it were practicable. And, looking to individual rather than to industrial taxpayers, it would be neither practicable nor just to take from each all the savings that he had. Savings — the purchasing power which the government must secure — are not distributed among individuals in such proportions as to make it possible to seize them by any rule of taxation which is practicable or even conceivable. Taxation is too rude and inelastic a device with which to tap dry every pool of spare purchasing power available among a hundred million people. And obviously, excessive taxation would not always inspire or persuade people to save. To draw out savings and persuade people to save anew, the persuasion of the loan must supplement the coercion of the tax — at least until our methods and machinery of taxation are improved beyond anything now even remotely practicable.

All this is true. But it is equally true that the United States

the total cost of the World War at $36,360,232,063, crediting our foreign obligations at $7,470,000,000. *Annual Report*, 1928, p. 564.

[4] E. R. A. Seligman, "The Cost of the War and How It Was Met," *American Economic Review* (December, 1919), Vol. IX, No. 4, pp. 739–770.

erred, and that the nations of Europe erred grievously, in overstressing loans and understressing taxation during the World War. In Great Britain and the United States, the maximum rates of the income and excess-profits taxes were high enough, probably too high. We imposed income taxes exceeding 72 per cent, and a profits tax with a maximum rate of 80 per cent was used in both countries. But in the middle reaches or brackets of the income tax — *e.g.* for incomes from $5000 to $50,000 a year — our rates were not on the average one third as high as those of the British income tax; and neither nation taxed luxuries and semi-luxuries as severely as would have been both practicable and right. The other belligerents in general used taxation more sparingly than Great Britain and the United States.

It is wise to stress taxation rather than loans in the financing of a great war, although this conclusion is often based upon an economic argument which is really not conclusive. With minor exceptions, the supplies and equipment used in war must be produced during the war. The physical burden of war cannot be "shared with future generations." This is true. But from this truth it is often argued that, as the physical burden of war must be borne by the generation which fights the war, it is the part of wisdom to let the same generation bear the money costs of the war and spare future generations the unnecessary encumbrance of a great war debt. This argument does not touch the practical reasons why loans must be employed. It forgets that the *apportionment* of the payment for war among industrial and individual taxpayers is the essential question, and it assumes — mistakenly — that by taxation the burden could be distributed with as little industrial derangement and as little injustice as it could be by a mixed system of loans and taxation.

Nevertheless, as a matter of emphasis, the economist is right who urges that taxes be stressed in preference to loans. Political experience shows that the nations which make greater use of taxes suffer less from inflation and emerge from the war with better credit, with a better system of taxation, and with less extravagant habits, than those nations which lean upon loans and minimize the use of taxes during war. A great war can be efficiently conducted on a

policy of almost exclusive loan financiering. Germany and France afford signal illustrations of this truth. But their condition and experience after the war, when contrasted with those of Great Britain, Belgium, and the United States, offer equally striking illustrations of the folly of leaning too heavily upon public credit. Governments might theoretically be as extravagant and wasteful when their receipts come largely from taxes as when they come predominantly from loans, but in practice they are not. Individuals could hardly borrow from their banks (with the consequent inflation of prices due to the expansion of bank credit) as freely to pay taxes as they borrow on the security of war bonds. In practice, at any rate, they do not. After the war, conceivably, those nations which abstained from taxation might start in as promptly and vigorously to levy the heavy taxes necessary to liquidate war claims and pay the heavy costs of reconstruction, as those nations which developed during the war effective machinery of new taxation — but in practice they do not. War patriotism, war profits, and war extravagance are very real facts. They should be utilized to the uttermost by the taxgatherer while they are in being.

As a matter of economic analysis, the subject under discussion resolves itself in the end, largely but not wholly, into the questions: Who during the war will pay the taxes? (if the tax policy be followed), and, Who after the war will pay the war debt, interest and principal? (if the loan policy be used). In short, is the tax system enforced during the war likely to be superior or inferior to that employed after the war? No answer applicable to all times and nations can be given to these questions. But if the changes in the American tax system since the World War can be safely used as the basis for reply, these answers must be given: The rates and the proportionate yield of direct taxes levied in accordance with ability to pay will be higher or greater during the war than after the war; the classes subject to the heavier taxes will pay more promptly and freely, with less evasion and less avoidance, during the war than after the war; internal taxes on luxuries and semi-luxuries will be heavier during the war than after the war, but protective customs duties will be heavier after than during the war; and the entire administration of the tax system will be more effective during the

war than after its cessation.[5] However, the post-war period is "young yet," and it is possible that, before the war debt is extinguished, other and different answers to these questions may be necessary.

Form of the Public Debt. — The form of the public debt is both an interesting and important consideration. The government is a great merchandiser of credit, and in this capacity must maintain a variety of wares, "dress its windows," and consult the tastes of its customers. It is not above utilizing the device of a class price. The postal savings deposits, so widely made by ignorant immigrants, draw interest of only 2 per cent per annum, although these deposits may be converted into postal-savings bonds bearing interest at $2\frac{1}{2}$ per cent. For more enlightened savers, it offers treasury certificates or bonds which bear the market rate of interest.

Special importance attaches to the maturities of the debt. The United States adheres to the policy of paying off its debt, and does not issue perpetual or irredeemable bonds. Its long-dated debt is usually optional, one important issue, for illustration, being 25–30 year bonds redeemable at the option of the government at any time between October 15, 1947 and October 15, 1952. Since the beginning of the war, large use has been made of short-dated debt. Tax certificates maturing in three months; treasury certificates maturing in three months, six months, and one year; and treasury notes maturing in two, three, four, and five years, have been issued in enormous volumes. During the war they were used to anticipate the huge issues of long-term Liberty Bonds, the certificates being accepted in payment for the bonds when the latter were offered. Liberty bonds are accepted in payment of federal estate taxes, and both certificates and notes are accepted in payment of federal income and profits taxes. Tax certificates are regularly issued a little in advance of the dates upon which income taxes are due, in order that so far as possible income taxes may be paid with such certificates and the strain upon the banks

[5] These answers should not be interpreted as expressing disapproval of the many changes which have been made in federal taxes since the close of the war. On the contrary, the authors believe that many of these changes have been justifiable. But war time is the time to pay war bills, so far as is humanly possible.

for cash thereby relieved. Since the war, the Treasury has followed a policy of "short-term refunding," by which the public debt, as it falls due, is refunded in the form of short-term notes of early maturity in amounts not too large to be easily handled as they fall due. The purpose of this policy is to avoid the perpetuation of the debt, "keep the finances clean, assure the gradual liquidation of the debt, and put the nation in shape to meet future emergencies. It depends above all else, however, on the maintenance of strict economy in government expenditure and a heavy surplus of receipts over expenditures each year.[6]

Loans and Inflation. — The extensive use of short-term obligations by the Treasury, during and after the war, has been severely criticized on the ground that their constant renewal deranges commercial credits and leads to inflation. Most of the certificates and notes are taken by the banks. Since the establishment of the Federal Reserve system, the banks frequently have ample surplus reserves, and the possibility of rediscounting this government paper with the Federal Reserve banks makes it possible to use these reserves freely for the purchase of short-term treasury obligations. They are being bought, it is asserted, not with savings but with manufactured bank credit. The government, it is asserted, ought to have made greater use of the long-term bond during and immediately after the war, selling such bonds continuously "over the counter," if it were necessary, as it was, to obtain fresh credit advances every two or three weeks. Bonds, as opposed to certificates, it is contended, are more likely to be absorbed by genuine investors, and in this way to connote or cause that saving which counteracts the inflationistic influence of credit issues. But bonds, as well as certificates, lead to inflation, especially where the marketing of them is helped and stimulated by the banks.

Methods of stimulating the sale of government obligations by making bank credit available at low rates were permitted and encouraged in most of the belligerent countries during or immediately after the war. In this country we facilitated the process by encouraging banks to lend on the bonds at interest rates not exceeding those borne by the bonds, by exempting the promissory

[6] Annual Report of the Secretary of the Treasury, 1922, p. 9.

notes used in such loans from the ordinary stamp tax, by holding the rediscount rate on government paper below the discount rate on commercial paper, and by exempting the government bonds in large part from taxation. A device of "payment by credit," was also employed in this country, whereby the banks in substance gave a credit to the federal government on their books in payment for the bonds, treating the amount subscribed as a government deposit on which the bank paid interest at 2 per cent, but receiving from $3\frac{1}{4}$ to $4\frac{3}{4}$ per cent from the government on such bonds.

By these methods the colossal war loans were floated without an important hitch and without excessive interference with commercial credits. But they resulted in heavy purchases of bonds with bank credit, especially manufactured for that purpose. Whether this process was necessary or not, has been widely debated. Certainly it was preferable to the direct issue of government paper money.

Receipts from Government Ownership

Misapprehension is rife concerning the financial aspects of government ownership. Conservative persons often write or speak as if government ownership were sure to involve a financial loss to the government. At the other extreme are many persons who believe that large revenues may be derived from this source. Experience shows that both views are wrong. In the typical or average country, the receipts from government property and business just about balance the expenditures. The government's expenditures and receipts bulk large in public accounts, and in some countries, such as India, they are of substantial importance. But on the whole government industry just about pays its own way.

For a period after the war, the federal government offered an apparent exception to this rule. As the result of the war, it was left with a vast quantity of supplies and securities, and in some years very large receipts were received from this source. In 1922, for instance, government property and investments yielded over $500,000. Sales of government property yielded $116,000,000; the Panama Canal produced nearly $12,000,000; the government's share of the earnings of the Federal Reserve bank amounted to

nearly $60,000,000; interest and discount, amounting to $57,500,000, were collected; and investments in the amount of $121,000,000 were repaid. Some of these receipts will continue and probably increase. Thus in 1928 tolls from the Panama Canal yielded over $28,000,000; and $208,925,942 were received on account of the indebtedness of foreign governments to the United States. But receipts from Federal Reserve and intermediate credit banks amounted to only $618,367 and sales of war supplies to less than three millions. But the situation of the federal government is abnormal, and the ordinary rule is that government property and business cannot be expected to make a substantial net contribution to the Treasury.

The Public Domain. — By domains we usually mean agricultural and mineral land and forests owned by the State and managed in the interest of the public revenue, although we might logically subsume under the term the streets and other public property of cities, with all the valuable franchises and privileges which go with them. The direct revenue from this source in the United States is not large, and if account be taken of the cost of the public domain and the expense which it has entailed, the net earnings would probably be a minus quantity.

Until a comparatively recent date this was not the case. In early feudal times the king had large estates of his own from the produce of which the government was largely supported, and although he had certain military rights over his subjects, he had very limited rights over their property. Later, the king became a public rather than a private person, and a large part of the crown estate became the property of the public; but even then taxation was relatively unimportant, and the State relied principally in times of peace upon fines, escheats, fees, crown prerogatives (certain dues which the king was entitled to collect as of his own right), and upon the proceeds of the public domain. Blackstone, the great English jurist, writing in 1765, classified taxation among the "extraordinary" revenues of the sovereign; and in some of the German principalities the government was enabled to get along without taxation in times of peace, down to the close of the eighteenth century. Real democracy not yet having been achieved, the

people distrusted taxation and resented its imposition, while the sovereign wisely clung to that species of revenue which was independent of the people's caprice. "The public domains," said Bodin, the great political philosopher of France in the latter part of the sixteenth century, "should be holy, sacred, and inalienable either by grant or by prescription."

But as democracy developed and the representatives of the people gained control of the finances, a new policy was everywhere adopted. If State management was uneconomical and wasteful, and if the government could obtain all the revenue needed by taxation, why preserve the wasteful methods of management? Why not turn public property into private property, to be developed and multiplied through the vitalizing force of individual self-interest? *The great truth was realized that the property of individuals, when subject to taxation and regulation, is no less part of the great patrimony of the State than those lands and forests whose title is retained by the government itself.* This doctrine was generally accepted by the greater countries of the world during the eighteenth century, so that Adam Smith, in defending it in 1776, was able to write that "there is not at present, in Europe, any civilized state of any kind which derives the greater part of its public revenue from the rent of lands which are the property of the state." This philosophy was dominant when our national government was created in 1789 and has guided our national policy ever since.

By exploration and occupancy, war, and various cessions, the federal government acquired after the Revolutionary War a magnificent domain of 2,252,244 square miles. During the greater part of the nineteenth century, these lands were steadily alienated, in accordance with the accepted national policy of expediting the economic development of the country. In the early years of the republic, large revenues were expected from the sale of public land; land was sold in large blocks even though it went to speculators. This was followed by an attempt to sell small holdings to actual settlers, the credit system being used with disastrous results; later (1830) the preëmption policy was introduced by which bona fide home-makers were given certain advantages in purchase; and finally came the Homestead Act of 1862 and other laws by which

actual settlers were enabled to obtain homesteads practically free of cost. In addition, our land was freely used as bounties to hasten the development of the country; and enormous grants were made to the states and to corporations for the endowment of education and the subsidization of canal, railway, and other internal improvements.

Our general policy was to give the land away or sell it at low prices in small holdings to actual settlers. In the case of agricultural lands, this policy worked reasonably well so long as the commercial value of the land was not disproportionate to the expense and sacrifice involved in the work of clearing and settling; but when good agricultural land became scarce, its distribution at less than market value became demoralizing, for much the same reason that a lottery is demoralizing.

In the case of forest land, it became apparent in the last quarter of the nineteenth century that the policy of alienation, whether sound or unsound previously, was then a mistake. Alienation and private ownership were not producing that careful management which conduces to the greatest use and the greatest social good in the long run. Beginning in 1891, forest reserves were established, and in such reserves, from time to time, practically all of the valuable timberland remaining to the government has been placed. Instead of selling forest land, the government is now permitting timber to be cut on its land in such a way as to preserve the forests.

In the case of mineral land, our experience seems to show that the policy of disposing of public land in small holdings free of cost, or at prices far below their value, is demoralizing and wasteful. Broadly speaking, the policy of alienation in small holdings conflicts with the requirements and necessities of modern industry. In disposing of our lands, we have tried to balk the corporation and the speculator in order to subsidize the settler and home builder. For instance, we have made the recipients of homesteads and mineral claims swear that they are not acting as agents "for any person, corporation, or syndicate," or "in collusion with any person, corporation, or syndicate, to give them the benefit of the land entered," and that the land is not being secured "for the purpose of speculation." Yet for purposes of grazing and in less

degree for mining and lumbering, modern industrial methods require that large tracts of land shall be worked together, and that individual claims shall be consolidated. The core of the difficulty was well described by Mr. Roosevelt, when President, in these words: "It is a scandal to maintain laws which sound well but which make fraud the key without which great natural resources must remain closed. The law should give individuals and corporations, under proper government regulation and control, the right to work bodies of coal lands large enough for profitable development." And he thereafter recommended laws to authorize the leasing, instead of the complete alienation, of coal, oil, and gas rights, as well as grazing rights on the public domain. In recent years, increasing use of leasing arrangements has been made both by the federal and the state governments; and in a few decades, these leases will probably yield handsome revenues to some of the states which have adopted them.

In a rough way, our land policy has been a success, as is shown by the almost feverish development of the country in the last century. But in some respects it has signally failed. In the first place, it has not paid: more money has been spent for the purchase, survey, and care of the public lands than has been received from their sale and lease. In the second place, certain kinds of lands, as we have shown, should not have been alienated. And in the third place, our efforts to give land to the landless have bred corruption, fostered speculation, and endowed private monopoly with public wealth. One has only to recall the convictions of public officers for land frauds, and to read the report of the Public Lands Commission — to which specific reference is given at the end of the chapter — to appreciate the truth of these charges.

Our conclusion may be formulated in the following general rule: only those lands should be wholly alienated whose use and development under private ownership lead neither to monopoly nor to unnecessary exhaustion and waste. Or, in more concrete terms (remembering that the maxim applies only to those lands left to the government, and to the majority of cases, not to every specific case), the rule for agricultural lands should be private ownership and management, for forest lands State ownership and manage-

ment, for mining and grazing lands State ownership and private management under a lease or royalty system, by which the State shall secure a share of the profits and retain a considerable measure of regulation and control. In disposing of its lands the government should endeavor to charge value received, as gifts of valuable land, or sales at inelastic schedules of prices which place an extreme valuation upon some tracts and an utterly inadequate valuation upon others, lead to speculation and monopoly, having most of the demoralizing features of a public lottery in which the prizes are distributed partly by chance and partly in accordance with the cunning and unscrupulousness of the participators. When Uncle Sam was rich enough — or was supposed to be rich enough — to provide us all with a farm, the policy of giving away the public domain appeared to be in harmony with the principle of equality of opportunity. But when the supply is far below the demand, those who receive gifts by lot or similar methods are in receipt of special privileges. What once seemed fair has, in the course of economic evolution, become unfair and demoralizing.

Public Industries. — In the beginning, let us briefly pass in review the principal classes of industrial enterprise in which the modern State engages for the satisfaction of other than State wants; because, obviously, we are not concerned with enterprises like the government printing office, the government navy yards, and in general, those incidental industries whose products the government consumes but does not regularly sell.

1. First, we find states like Switzerland monopolizing the manufacture of alcohol and certain alcoholic beverages, Japan monopolizing the opium traffic in Formosa, or commonwealths like South Carolina engaging at one time in the retail distribution of intoxicating beverages. The purpose of the State in engaging in such industries is primarily sumptuary; it is desired to regulate the traffic almost to the point of suppression, perhaps. Ordinarily a good revenue could be secured, but revenue is a very secondary consideration. Prices will be placed above the level of highest net profit, and not improbably the ideal of regulating consumption will be so vigorously pursued that profits will disappear altogether.

2. Secondly, we have the group of so-called "fiscal monopolies."

France, for instance, monopolizes the manufacture of matches, cigarettes, and tobacco in general; Japan has recently gone farther than any other country in the creation of fiscal monopolies; while Prussia, Austria, Italy, Spain, and other European countries maintain public lotteries — as did many of the American colonies during the eighteenth century. The primary object of the State in undertaking these enterprises is public revenue, gain; and naturally a monopoly price is charged, the price which will yield the greatest net revenue.

3. Next, we have a group of enterprises consisting principally of the so-called "natural monopolies," which the State undertakes not for suppression, not for profit, but primarily for regulation — to regulate the quality of the product, as in the case of water; to maintain effectively what have been called "equitable conditions for the prosecution of private business," as in the case of railways; to prevent monopolistic extortion and corporate abuse, as in the case of lighting companies, the post office, the telegraph, and the telephone; or to prevent crime and preserve intact the foundations of commercial prosperity, as in the monopoly of coinage. The charges here are ordinarily adjusted to either the "revenue" or the "cost" principle, that is to say, the State will either aim to make a fair business profit such as is secured in competitive private enterprises, or it will endeavor approximately to meet expenses by adjusting its charges to the cost of production. England, France, and Germany, in ordinary years, obtain handsome revenues from their respective postal departments, but in the United States the accounts of the Post-office Department usually show a small deficit.

4. Finally, we have a large and heterogeneous group of industries which are maintained principally for service, for their educational and developmental influence, not primarily for regulation, and not at all for profit, but "for the public good." We include here not only schools and educational institutions of all kinds, but roads and canals; the savings banks and public pawn shops maintained in several countries of continental Europe; workingmen's insurance; and model manufacturing establishments such as France maintains for the production of tapestries and fine porcelains. In this group charges will sink to a minimum, and in some lines of enterprise,

such as education, practically disappear. Revenue here is not only a minor, but is almost a negligible, consideration.

Although we cannot decide in a general way what theory of charges should be followed in particular public industries, it is possible to lay down general rules which will assist us in reaching a correct conclusion in specific cases. Assuming that the industry in question supplies a service rather than a commodity, merely to save words in the discussion, we must first of all inquire: (1) Is the service helpful or harmful in its net social effect? According as it is one or the other, we will incline in our charges toward the gratuity principle of the prohibitive principle. If harmful, however, it is plain that we must not make the charges high enough to encourage smuggling or illicit manufacture. If helpful, on the other hand, we cannot at once decide upon the gratuity principle, but must inquire further: (2) How generally is the service enjoyed? If only a small portion of the community enjoys the service, it would usually be unjust to charge less than cost, because the deficit would be borne by general taxation falling upon the entire community; unless, indeed, the benefit to one restricted class is seen to be of advantage to the whole community in such a degree that the rest of the community is willing to bear the deficit as in the case of public charity.

(3) Assuming that the service benefits the whole community, this is still not sufficient to justify a charge less than the cost of production. The problem is one of comparative costs. We must inquire whether greater benefit would not be secured by charging enough to raise a profit and then distributing that profit through the maintenance of some other gratuitous enterprise, or, if the tax system weighs heavily on the poor, by remitting taxation to the extent of the profit. (4) If all these questions are answered in favor of the gratuity principle, we still must consider what effect gratuitous service will have upon the cost of the service. Will it encourage wastefulness? Free city water, for example, would probably prove impracticable because of waste, but free parks or free education do not lead to inordinate or unnecessary consumption. The question is a vital one, but it is not always to be answered one way, as some critics seem to believe. (5) Closely

related to the above is the question of pauperization. Some things the State may safely give away, and some not. The modern city, for example, may give free band concerts, in our view, to the undoubted edification of the community; but in Rome the public games demoralized the populace. (6) Finally, we have to ask what effect gratuitous service will have on incomes. Henry George proposed that our cities should operate the street-car lines gratuitously, and the argument in its favor is far stronger than might be expected on first thought. But what effect would this gratuitous service have upon the incomes of the laboring classes? Take the case of the worker in New York City earning $5.00 a day. Will his wages remain at $5.00, if street-car service is offered free of charge? Will not the migration to New York be increased, so that wages will fall? And may not the gain ultimately fall to owners of house property in the form of enhanced rents?

All these questions must be answered before the tariff of charges can be adopted, and it is plain that the answers will be determined by the particular conditions of time, industry, and place, particularly by the character of the industry. The nearest approach to a general rule, which can be formulated, may be stated as follows: In proportion as a service or commodity tends to the upbuilding of character and personality, we should, so far as fiscal conditions permit, gradually move in the direction of the principle of gratuitous service. If the service or commodity itself is widely consumed, and is as desirable as any vendible commodities which would probably be purchased from possible revenues yielded by charges for the service, particularly if large consumption is desirable and waste in consumption does not become excessive, the principle of gratuitous service may be recommended.

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CHAPTER XXXVI

PUBLIC RECEIPTS FROM FEES, SPECIAL ASSESSMENTS, AND TAXES

Definitions. — If the reader will run over the classification of public industries given in the preceding chapter, he will notice that the corresponding payments — which descend, it will be remembered, from prohibitive to gratuity charges — fall into two main classes: those imposed upon the consumer or purchaser who specially benefits by the service, and those — like the revenues devoted to the maintenance of education and public parks — imposed upon the tax-paying public generally, irrespective of the benefits conferred by the service. Moreover, as we move from the prohibitive to the gratuity group, there is a general though not regular change in the degree and kind of compulsion exercised by the State in collecting the contribution. The State does not encourage the purchase of intoxicating liquors under the Gothenburg system in order that the revenue may be as large as possible, — it actually discourages their sale; one is not forced to marry, but if one marries one is compelled to take out a marriage license; and whether one uses the public schools or not, one must help pay for their maintenance. Finally, it will be noticed that as the element of compulsion increases, the public interest in the service changes, and generally though not always increases.

There are, then, three general principles of classification: (1) the assignability of the benefit of the service to an individual; (2) the degree of compulsion exercised by the State; (3) the degree and kind of public interest involved in the service. The more voluntary payments for the more commercial services made by persons who receive a special benefit from these services are called *public prices;* the less voluntary payments for services in which the public interest

is less commercial in character, made by persons who receive a special benefit from the services, are called *fees*. Compulsory contributions, "levied in proportion to the special benefits derived, to defray the cost of a specific improvement to property, undertaken in the public interest," are, in the United States, called *special assessments;* and compulsory contributions, exacted by public authority according to some general rule, without reference to the special benefits conferred by the services to whose maintenance the contributions are devoted, are called *taxes*.

The student is warned that little regard is paid to these distinctions in everyday usage. The words "fees," "taxes," "licenses," "tariffs," "rates," "charges," and the like are hopelessly confused; and even census statisticians find it impossible, in public accounts as now kept, always to distinguish between prices, fees, rentals, licenses, and some kinds of taxes. The utility of the terms is in emphasizing the important truth that these great categories of public contributions must be distinguished and differently treated by the legislator and student, by whatever terms the different categories are designated.

Fees. — In the exercise of its most fundamental and general functions, the government frequently confers, in an incidental way, special benefits upon particular individuals. Thus the courts, whose function it is to administer justice in general, find that this function must be performed by deciding disputes between particular litigants, one of whom usually benefits by the decision. Now if the government is disposed to take advantage of the opportunity, it is evident that much revenue may be raised from the individuals who, in a more or less adventitious way, benefit from the government activities; and where the nation is poor or the people averse to taxation, much dependence will be placed upon fees. As wealth increases, however, and the government becomes more democratic, there is a growing disposition to support general functions by general contributions — taxes — and the relative importance of fees is likely to decline. On the other hand, there is no likelihood that fees will wholly disappear, as they exercise a wholesome influence in preventing waste. Court fees, for instance, would probably have been abolished before this, if they did not serve to prevent litigious

persons from carrying their quarrels to the courts for settlements. Because of this restrictive and economical influence exercised by fees, they will undoubtedly retain a permanent place in the public revenues of even the more advanced and democratic states; but their fiscal importance will very likely decline.

During the colonial epoch the fee system was much abused in America, many offices being wholly maintained by fees which should have been abolished or supported by taxation. At the present time, however, the evils of the system arise not from the number or amount of fees, but from their connection with the salaries of certain public officials. Many officials are allowed to keep the fees which they collect in lieu of fixed salaries, and this practice results in serious evils. In the first place, some fee-paid offices, particularly those of sheriff and register of deeds in populous districts, have come to yield princely incomes, and the scramble for these rich offices constitutes a prolific source of political corruption. In the second place, fee payment of public officials often impels them to an excessive and pernicious activity, in which their own interests and those of the commonwealth are placed in direct conflict. In a few states, for instance, prosecuting attorneys are paid so much per conviction, the fee increasing with the heinousness of the offense, while in many cities and villages the police force and city courts are supported partially by fees and fines. Under these circumstances, officials bend their activity to the conviction of offenders, not to the prevention of crime and the reform of the criminal; they frequently set traps for persons who are likely to break the law, creating the temptation and the opportunity in order that they may increase their emoluments. Finally, the fee system has been a constant corrupter of justice as dispensed by justices of the peace in "the people's courts." In many states there are several justice's courts open to the plaintiff who desires to bring suit. In consequence, a disgraceful competition springs up, each justice endeavoring to swell his business and multiply his fees by constantly finding for the plaintiff.

The remedy is in the substitution, wherever possible, of regular salaries for fee stipends, and in the institution of methods of accounting which will hold public officials to strict accountability for

every fee collected. Fortunately, the movement of legislation, while slow and obstinately fought by some politicians, is in the right direction; and in almost every state public officials are being required to turn their fees into the general treasury and accept instead a fixed compensation.

Special Assessments. — Where the operations of the government confer a special benefit upon some restricted group of individuals, those individuals are often led to exercise undue influence upon the government to secure that service, if the latter is supported by appropriations from the general funds. Log-rolling and graft are encouraged. On the other hand, if the only way the group of individuals can secure the service is by expenditure of the common funds, the government or legislature often delays the expenditure unduly for fear of criticism or because of unwise parsimony. Thus in cities where the method of special assessment is not used, it often happens that the opening of a street is delayed long after the time when it would be desirable for the citizens most interested, although perhaps the latter would be willing to defray the cost from their own pockets, were this permitted.

A recognition of these facts has led to a striking development, in the United States, of the method of special assessment. The special assessment has been approved by the American courts because it places at least a part of the cost of the service upon the beneficiaries of the service, — a rule which can sometimes, but not often, be violated without subjecting the government to excessive and corrupting private influence. It has appealed to the people, however, because it permits public improvements to go ahead at a pace which would be impossible if taxation were the only method of defraying the cost of the improvements. Needless to say, the special assessment has occasionally stimulated extravagance and premature development. Thus, in New Jersey, in the last quarter of the nineteenth century, several large cities were practically thrown into bankruptcy by undertaking ambitious public works, in which the special assessment played an important part. And in New York, under the Tweed régime, the system of special assessments furnished an excuse for undertaking public works in which corruption flourished, and which probably would never have been

undertaken, had it been known in the beginning that their cost would have to be partially defrayed by taxation.

On the whole, however, the special assessment has been a notable success as a fiscal expedient, and has proved an important, if not an indispensable, factor in the development of American cities. Where its use has been followed by extravagance, speculation, or jobbery, these evils are to be attributed almost wholly to political corruption of the government, and only in a very small measure to the special assessment itself. Most of the evils, moreover, have arisen where the city government, or some department of the city government like that of public works, has been given the power to order the improvements against the will of the property owners involved, or where, as was the case in the example cited above, assessments upon particular lots were permitted to exceed the value of the property. Special assessments should not be levied against the will of a majority of the property holders subject to assessment, except by a two thirds or three fourths vote of the municipal legislature, and in no case should the assessment exceed a minor portion of the value of the property against which the assessment is laid. Where these rules are observed, the special assessment is unlikely to lead either to premature development or hardship upon the property holder.

Taxes. — A general view of the various classes of receipts for practically all divisions of government, before the war, is given in Table XLIV. In 1913, the receipts of the local governments were more important in the aggregate than those of the federal government, and the property tax was the most important source of revenue. Taxes supplied at that time a little over 70 per cent of the total revenue. Similar statistics for all divisions of government are not available for later years; but the trend of taxation and the rapid growth in the burdens of taxation are brought out in Table XLVI. The ratio of taxation to the national income has nearly doubled since 1913, according to this estimate; federal taxes, which, before the war, amounted to less than one third of the total, constituted in 1921 considerably more than one half; but fell back to the old proportion by 1927; and state taxes have increased greatly in relative importance since 1913.

In times of peace taxes are by far the most important source of revenue, and the problems of taxation are in many respects the most important with which the public financier has to deal. These problems are of two varieties: those dealing with the nature of taxation in general, and those dealing with specific taxes. The remainder of this chapter will be devoted to the general questions. The following chapter will be given over to the more specific problems of American taxation.

Justice in Taxation. — By far the most important lesson which the student of fiscal questions has to learn is the supreme necessity for tolerance and breadth of view. The factors which condition justice or make for equity in taxation are exceedingly numerous; and the mistake most commonly made by superficial thinkers is to seize upon some one element of justice, build a philosophy upon that alone, and vigorously condemn everything that does not harmonize with their petty and bigoted little system. No rule less sweeping than that of the general welfare can serve as a safe guide in public finance.

1. Some writers go so far as wholly to deny the right of the State to take private property by taxation. These writers forget that there is no such thing as absolutely private property. As the State determines what shall be private property, so also it determines the conditions of its existence, and the most fundamental condition of private property is the obligation to contribute to the support of the State.

2. However, the State must exercise this power over private property in an equitable manner, or, as this maxim is ordinarily expressed, *taxation must be equal and uniform.* Thus, for example, the constitution of West Virginia provides that: "Taxation shall be equal and uniform throughout this state, and all property, real and personal, shall be taxed in proportion to its value, to be ascertained as directed by law." Now, if we examine the way in which these requirements of equality and uniformity have been interpreted in the administration of practical justice, we find that equality and uniformity have come to mean little more than this, that taxation shall not be arbitrary, capricious, or plainly unreasonable. (1) Everywhere the legislature is given a wide latitude in

TABLE

RECEIPTS OF THE NATIONAL GOVERNMENT, STATES, COUNTIES, AND IN-

A. REVENUE

SUBJECT	AGGREGATE
	Total
Population estimated as of July 1, 1913	97,086,378
Revenue receipts	$2,799,497,765
General property taxes	1,082,971,468
Special property taxes	397,913,352
Poll taxes	17,133,205
Special assessments and charges for outlays	113,218,693
Business taxes	170,409,713
Liquor licenses and other imposts	309,663,321
Other business licenses	22,534,712
Non-business license taxes	12,945,902
Fines, forfeits, and escheats	14,121,446
Highway privileges	13,685,951
Interest and rents	62,437,933
Subventions and grants	78,372,386
Donations and gifts	5,689,055
Earnings of general departments and miscellaneous	105,385,137
Earnings of public service enterprises	393,015,491

B. NON-REVENUE

Non-revenue receipts	$2,811,875,633
From sales of investments and supplies	115,137,755
From issue of debt obligations	1,955,669,999
From trust and agency transactions	549,318,592
From counterbalancing transactions	27,806,857
From general transfers	163,942,429

[a] Includes population of Kansas enumerated as of Mar. 1, 1913, by state census.

[b] Excludes population of independent cities, counties under municipal government, St. John County, Fla., and the State of Rhode Island.

[c] For places of less than 8000 inhabitants, enumerated as of Apr. 15, 1910.

[d] Includes $313,616, receipts from the income tax.

exempting property, so that institutions and industries which are regarded as of peculiar value to the people may be encouraged by freedom from taxation. Almost everywhere, poll taxes which impose an unequal burden upon the poor, license taxes which impose unequal obligations upon those who pay them, inheritance and

XLIV

CORPORATED PLACES HAVING A POPULATION OF 2500 AND OVER: 1913

RECEIPTS

NATIONAL GOVERNMENT	STATES	COUNTIES	INCORPORATED PLACES
Total	Total	Total	Total
97,086,378 [a]	96,815,253	85,738,717 [b]	45,682,236 [c]
$953,596,637	$367,585,331	$370,043,046	$1,108,272,751
——	139,750,303	282,077,069	661,144,096
$313,953,234	67,675,933	805,419	15,478,766
4,720,728	2,965,069	5,817,855	3,629,553
——	6,454,807	9,323,078	97,440,808
113,384,816	53,642,322 [d]	92,866	3,289,709
230,146,332	20,992,857	6,577,556	51,946,576
205,907	8,589,208	1,474,255	12,265,342
——	6,450,932	1,703,316	4,791,654
2,444,025	1,428,011	3,531,537	6,717,873
——	——	164,760	13,521,183
44,103	21,300,430	5,531,485	35,561,915
——	3,190,750	23,682,813	51,498,823
——	434,526	283,233	4,971,296
17,993,561	32,994,761	28,564,467	25,832,348
270,703,931	1,715,422	413,329	120,182,809

RECEIPTS

$1,096,216,969	$159,061,504	$525,625,406	$1,030,971,754
3,558,788	27,648,759	3,383,364	80,546,844
1,059,082,850	77,906,436	86,051,348	732,629,365
20,145,349	28,519,067	425,331,927	75,322,250
13,429,982	1,441,082	3,136,937	9,798,856
——	23,546,160	7,721,830	132,674,439

corporation taxes which single out particular classes of society for unusual taxation, are sustained by the courts. *Justice in taxation, then, does not require rigid equality or narrow uniformity of treatment.* (2) Institutions which are socially harmful may be subject to peculiarly drastic taxation; that is to say, *justice may take into account sumptuary considerations.* (3) Old taxes, which would not be used if they were not already intrenched in the fiscal and social system, are permitted to endure; *justice takes cognizance of the fact*

TABLE

EXPENDITURES AND PAYMENTS OF THE NATIONAL GOVERNMENT, STATES, AND OVER:

SUBJECT	AGGREGATE		NATIONAL GOVERNMENT	
	Total	Per Capita	Total	Per Capita
Governmental cost payments .	$2,966,092,825	$30.56	$952,600,857	$9.81
All general departments . .	1,859,633,092	19.15	598,857,357	6.17
General Government . .	273,555,786	2.82	61,783,733	0.64
Protection to person and property	445,648,157	4.59	264,670,696	2.73
Conservation of health and sanitation . .	75,326,813	0.78	5,700,620	0.06
Highways	202,221,041	2.08	42,651,775	0.44
Charities, hospitals, and corrections	340,610,995	3.51	182,313,240	1.88
Education	441,659,413	4.55	17,242,816	0.18
Schools	430,837,123	4.44	16,683,560	0.17
Libraries	10,822,290	0.11	559,256	0.01
Recreation	24,763,789	0.26	923,801	0.01
Miscellaneous	55,847,998	0.58	23,570,676	0.24
Expenses of public service enterprises	331,951,186	3.42	264,106,982	2.72
Interest	189,104,184	1.95	25,256,180	0.26
Outlays	586,303,463	6.04	64,380,338	0.66

SUBJECT	AGGREGATE	NATIONAL GOVERNMENT
Non-governmental	$2,559,568,548	$1,045,271,792
For purchase of investment and supplies	186,836,556	
For redemption of debt obligations	1,643,519,003	1,011,251,811
In trust and agency transactions	542,042,937	20,589,999
In counterbalancing transactions	27,788,002	13,429,982
By general transfers . . .	159,382,050	

that, other things being equal, an old tax is a good tax by very reason of its age. (4) Indirect taxes which weigh more heavily upon the poor than the rich show no signs of disappearing; that is to say,

XLV

COUNTIES, AND INCORPORATED PLACES HAVING A POPULATION OF 2500 1913

STATES		COUNTIES		INCORPORATED PLACES	
Total	Per Capita	Total	Per Capita	Total	Per Capita
$382,551,199	$3.95	$385,181,760	$4.49	$1,246,659,009	$27.29
316,500,666	3.27	277,735,319	3.24	666,540,650	14.59
40,495,879	0.42	102,334,964	1.19	68,941,210	1.50
25,066,253	0.26	15,213,229	0.18	140,697,979	3.08
6,388,114	0.07	2,815,466	0.03	60,422,613	1.32
16,884,385	0.17	55,514,891	0.65	87,169,990	1.91
87,585,903	0.90	37,815,508	0.44	32,896,344	0.72
133,463,181	1.38	58,046,905	0.68	232,906,511	5.10
132,575,106	1.37	57,682,193	0.67	223,896,264	4.90
888,075	0.01	364,712	[a]	9,010,247	0.20
1,982,682	0.02	419,556	[a]	21,437,750	0.47
4,634,269	0.05	5,574,800	0.07	22,068,253	0.48
3,460,620	0.04	189,122	[a]	64,194,462	1.41
14,156,235	0.15	17,417,593	0.20	132,274,176	2.90
48,433,678	0.50	89,839,726	1.05	383,649,721	8.40

STATES	COUNTIES	INCORPORATED PLACES
$124,206,741	$497,223,413	$892,776,602
37,725,717	5,106,811	144,004,028
36,495,682	58,965,207	536,806,303
25,106,555	422,226,435	74,119,948
1,422,227	3,136,937	9,798,856
23,546,560	7,788,023	128,047,467

[a] Less than one-half of 1 per cent.

justice gives due weight to the productivity of a tax, its cheapness of collection, and convenience of payment, and balances these considerations against factors which we are accustomed to regard as more

TABLE XLVI

Combined Tax Collections, Fiscal Years 1890 to 1927[1]

Taxing Authority	1890	1903	1913	1919	1921	1923	1924	1925	1926	1927
Amount (in Millions)										
Federal	$374	$ 521	$ 668	$4,500	$4,905	$3,032	$3,193	$2,966	$3,207	$3,337
State	96	155	307	570	783	917	1,017	1,107	1,264	1,358[a]
Local	405	706	1,219	2,395	3,150	3,285	3,608	3,817	4,125	4,382
Total	875	1,382	2,194	7,465	8,838	7,234	7,818	7,890	8,596	9,077
Per Capita										
Federal	$ 5.93	$ 6.43	$ 6.92	$42.86	$45.23	$27.15	$28.08	$25.71	$27.38	$28.13
State	1.52	1.92	3.18	5.43	7.22	8.21	8.94	9.59	10.79	11.45
Local	6.43	8.72	12.63	22.81	29.05	29.41	31.72	33.08	35.22	36.94
Total	13.88	17.07	22.73	71.10	81.50	64.77	68.74	68.38	73.39	76.52
Per cent that Taxes are of National Income										
Federal	3.1	2.5	1.9	6.6	8.8	4.2	4.5	3.8	4.1	4.4
State	0.8	0.8	0.9	0.8	1.4	1.3	1.5	1.4	1.6	1.8
Local	3.3	3.4	3.6	3.5	5.7	4.6	5.1	5.0	5.2	5.7
Total	7.2	6.7	6.4	10.9	15.9	10.1	11.1	10.2	10.9	11.9

[a] This figure was estimated in the absence of the United States Census Bureau tabulation. The Census Bureau's tabulated figure is $1355 millions. This $3 millions difference enters into, but does not seriously affect all state and combined figures in the table.

[b] Figures for 1924–1927 are preliminary estimates.

[1] From National Industrial Conference Board, *Cost of Government in the United States, 1926–1927* (New York, 1928), pp. 60–63.

fundamentally ethical. (5) Taxes may be employed to suppress state banks of issue, protect home manufactures, and in general to accomplish political and social ends other than the mere raising of revenue. Congress may not use taxation as a pretext to accomplish some purpose such as the repression of child labor, which it would be unconstitutional for Congress to legislate upon directly; and in general taxation is seldom the best agent of social or political reform. If there is an evil which needs eradication, the best way is to suppress it directly, if possible, rather than discourage it by taxation. *But this does not affect the general proposition that where taxation is an efficient remedy, or the only remedy, justice sanctions its employment.* (6) Finally, it is plain that, however we strive, nothing better than approximate justice can ever be secured in taxation. A system that frankly recognizes this truth and makes for rough justice, by the imposition of taxes which are simple, stable, convenient, inexpensive, and productive, is far better than one which attempts to secure exact justice through complex and delicate schemes of taxation which cannot be definitely or efficiently administered.

3. The theory of justice most widely accepted by American courts during the nineteenth century is expressed in the maxim that taxes should be proportioned to *benefits* derived. Like other rules of justice, this maxim contains elements of truth and elements of error. It is a fairly helpful guide, for instance, in dealing with public revenues other than taxes. Public prices, fees, and special assessments should, as we have seen, be proportioned to benefits, unless there is strong reason for departing from the rule. And in the apportionment of taxation among districts or governmental sections, the rule still retains, and probably always will retain, a large measure of validity. Taxation, we say, must pertain to the district taxed, meaning by this that under ordinary circumstances it is not wise to tax District A for the benefit of District B; although there are important exceptions to this rule. But in the apportionment of taxes among the individuals of a given district, the rule has little or no place. This conclusion follows, if for no other reason, from our definition of the word "taxes," which we confine to contributions levied without reference to special benefits received,

either because no special benefit can be assigned, or because (as in the case of free schools) we specifically desire to lift the cost of the service from the shoulders of some of those who specially benefit by the service. Moreover, in general, it is impracticable to determine what proportion of the general benefits of government accrues to particular individuals.

4. At the present time a great majority of economists agree that taxes should be apportioned according to "faculty" or *ability to pay*. It must be confessed that the rule is not very satisfactory. No simple measure of ability exists, and many taxes, which under a superficial examination seem to conform to the rule, such as the general property or income tax, are found upon closer examination to violate the rule in many ways. Despite all these defects, however, the ability principle has elements of great strength. It satisfies our sense of justice, in the first place, when explicit reasons cannot be given for departing from a general rule; and it expresses the ideal towards which we strive in voluntary contributions to the church or other voluntary joint enterprises of a social nature. In the second place, we can often ascertain with certainty that the rule is being violated, even though we cannot define its meaning positively, and hence it is capable of practical application in a negative way. We may therefore accept the rule in this sense, that unless other treatment is justified by the considerations cited in paragraph 2 above, or by analogous reasons, no tax which is plainly disproportional to the ability of the contributors should be employed.

5. Accepting the ability principle as the best rule for general taxes as distinguished from the specific taxes noted in paragraph 2, we at once encounter the difficult question, how is ability to be measured? Different writers have recommended as the basis or measure of ability, income, outgo or consumption, and property. A little consideration will convince the reader that each of these measures is marked by minor defects. The consumption of the poor, for instance, is out of all proportion to their ability to bear the burdens of the State. Property, on the other hand, differs widely in its productiveness, and, moreover, many persons with a little property have large incomes, and therefore great ability to bear taxation. Incomes, similarly, differ in permanence and security,

and equal incomes are called upon to support very unequal numbers of persons. Fortunately it is not imperative in practice to make a decision between these measures of ability. The necessities of fiscal administration make it imperative in actual practice to employ all three bases of taxation. Property, consumption, and income are all employed in the United States at the present time and will unquestionably continue to be employed for many generations.

Progressive Taxation. — After we adopt any concrete measure of ability, we soon realize that it is only approximately correct, because we are immediately confronted with the question: Does ability increase in direct proportion or more rapidly than our measure of ability? In other words, shall taxes be laid in direct proportion to income, property, etc., or shall the rate be increased as the amount of income or property increases? The first method is called *proportional* taxation, the second *progressive* or *graduated*. If the rate diminishes as the income or property increases, we speak of it as *regressive taxation;* and if the rate increases faster than the income or property, but toward a fixed limit which it can never exceed, it is referred to as *degressive taxation.* The last kind of rating is of course a special variety of progressive taxation, and usually results from the combination of nominally proportional rate with the exemption of a fixed sum from all incomes or assessed wealth. The American property tax is in principle a degressive tax, though it is regressive in practical effect.

From the theoretical standpoint our real knowledge upon this subject is exceedingly unsatisfactory. On the whole, the arguments of those who approve progressive taxation are more convincing than those of its opponents, and a majority of economists at the present time agree in asserting that ability increases faster than income, property, or any common measure of ability. If we construe ability as ability to bear sacrifice (as John Stuart Mill and some other authorities do) and confine our attention solely to the consumer, there can be little doubt that progressive taxation is the means by which the least sacrifice will be visited upon the community as a whole.[2] This is a strong argument, because one of

[2] See T. N. Carver, *Essays in Social Justice* (Harvard University Press, Cambridge, 1915), pp. 401–406.

the chief immediate effects of taxation is to deprive persons of the necessaries, conveniences, and luxuries of life, while the maxim of the greatest good to the greatest number — or as it works out in taxation, the least sacrifice to the least number — is one of the most widely accepted rules of social conduct. Surveying the ability theory from the positive standpoint of ability to acquire or produce property, we find the testimony almost universal, that as the fortune or income increases, the ability to earn or produce more increases at an accelerating pace. "It is the first thousand that counts," in the language of the successful man who is telling the younger generation how he succeeded.

For generations in this country — indeed, until the second decade of the twentieth century — the American system of taxation was heavily regressive. Under the general property tax, the property of the rich was generally assessed at a smaller proportion of its true value than the property of the poor. And federal taxes, consisting almost wholly of customs and excess duties which are in the main shifted to the consumer, probably bore with more proportionate weight upon the small than upon the large consumer. The introduction of progressive taxes was, under such circumstances, justified as a means of neutralizing the regressivity of the old system.

A progressive income tax was adopted by the federal government in 1913, with rates rising to 7 per cent, and a progressive estate or inheritance tax in 1916, with a maximum rate of 10 per cent. During the war the maximum rate of the estate tax was raised to 25 per cent, and the maximum rate of the income tax to 73 per cent. Since the war both taxes have been greatly reduced. Under the Revenue Act of 1928, the maximum rate upon income is 25 per cent and the maximum rate upon estates 20 per cent. Moreover, the federal government allows inheritance or estate taxes paid to states or Territories to be credited or offset against the federal tax up to 80 per cent of the latter. Eventually, the federal government will collect little more than 20 per cent of the estate tax assessed in the first instance.

The reduction of the high progressive rates was probably wise from almost every standpoint. It has resulted in, or at least has been followed by, a striking increase in the amount of personal

income returned for taxation. Very high progressive rates defeat their own ends. State and municipal bonds, and some of the federal bonds, are exempt from federal income taxation. By investing their money in these bonds and by various other devices, the richer taxpayers can evade or avoid the tax. If a corporation earns $1,000,000 and does not distribute such earnings to its stockholders, the rate is only 12 per cent; but if an individual business man or lawyer earns an equal amount, it is taxed at an average rate of over 24 per cent. There is ample justification for a reasonable application of progressive rates, both in theory and for the practical purpose of counterbalancing the regressive effects of the excise and property taxes. But progressive rates must be applied with due regard to their practical limitations and effects.

The Shifting of Taxes. — Up to this point we have been speaking as if a tax must remain where it is originally placed. This we know is not always the case. Excise taxes, for instance, are usually levied with the expectation that they will be passed or *shifted* from the business man, who first pays them, to the consumer or some other person. The conditions which control the shifting of taxes must evidently be considered — at least in a very general way — before we discuss the practical working of the American system of taxation.

The word "shifting" usually refers to the increase of price by which the original payer of the tax attempts to recoup himself. This increase of price is usually accompanied by collateral economic disturbances or dislocations — suggested by the phrase "repercussion of taxes," which is frequently employed in this connection — that are quite as important as the mere change in price. For instance, an excise tax (per unit of product) upon a monopoly may raise the price by as much or even more than the tax itself. But the monopolist nevertheless feels the burden of the tax in reduced profits. When we say that a tax is shifted, then, we do not imply that the original payer evades *all* the evil effects of the tax.

Mobility is the chief factor which controls shifting; and this in turn is largely dependent upon the inclusiveness or scope of the tax, and upon the existence of monopoly or differential advantages. Place a tax upon a person or thing that can easily move to a jurisdiction where such taxes are not imposed, and the tax is very likely to

be shifted. Local taxes upon mortgage loans offer a good example. Such taxes are very likely to raise the interest rate by as much or a little more than the tax rate, the "little more" being explained by the trouble imposed upon the lender in looking after the tax and the risk that the tax rate will be increased. On the other hand, if mortgage lenders are constrained by ignorance or custom or the existence of particularly high rates in this district to keep on supplying the old amounts of loans, the tax will not be shifted. Unless the supply can be or is reduced by the tax, shifting will not ordinarily take place.

Naturally, therefore, the particular nature of the supply is of prime importance. We may illustrate by an excise tax per unit of product upon competitive industries of various kinds. In industries subject to the law of constant expense, a fixed tax per unit of product will raise the price by just the amount of the tax, in theory. In industries subject to the law of increasing expense, however, the reduction of the supply caused by the tax somewhat reduces the expenses of production per unit exclusive of the tax, and on this account prices in such industries will increase by an amount less than the tax. In industries subject to the law of diminishing expense, on the other hand, the price will be raised by an amount equal to the tax, plus an amount equal to the increased expense of production caused by the limitation of supply. Mobility, as has been said, is the most important factor in this connection, and it may be restricted or destroyed in a variety of ways. Monopoly limits mobility, and, as we have already seen, the monopolist cannot shift a fixed tax or a proportional tax on net profits unless the tax is so high as to reduce monopoly profits below the amount that could be earned on the same investment in a competitive industry.

If the object of taxation be durable and the tax a special or exclusive one, the price of the object is likely to be reduced by an amount equal to the capitalized value of the tax. Prospective purchasers of land take into account the taxes that are likely to be levied upon it, capitalize these, and subtract their capitalized value from the amount which they would pay for the property if it were not liable to taxation. The apparent result of this *capitalization*

or amortization of taxes, as the process is called, is to place the burden of an endless succession of taxes upon the original owner, and relieve subsequent purchasers of any real burden.

Many present-day followers of Henry George find in this principle of amortization at once a justification and a method of securing for society all "economic rent," using the term in the Ricardian sense. Under present conditions, they say, a man who buys land wholly escapes taxation upon it. Consequently, in order to make landowners pay as much as other people we should have to increase the tax upon land by a rate equal to that paid by the average taxpayer as often — say every thirty years — as the land of the community changes holders. In this way the State could gradually and with justice absorb all "economic rent." [3]

As we have seen, the Ricardian theory of rent is open to grave criticism. The single tax has already been discussed in connection with that theory.[4] We may thus leave that point aside here and note that the reasoning described above is fallacious for three reasons: (1) What the prospective purchaser capitalizes and deducts is not the entire tax on the land, but the excess of that tax over similar taxes upon other investments open to him. A new purchaser of land does not "buy free of taxes," as is so often stated; what he does is to buy free of any excessive or abnormal tax burden. After the purchase he not only pays taxes in appearance, but in actual fact pays the average tax rate. (2) In so far as this program of the single taxers was anticipated and understood, it would visit the whole burden of the "reform" upon present owners, instead of being distributed over several generations. Subsequent purchasers would discount these periodic increases of the tax and pay to owners for their land only the present value of the rapidly vanishing income from land. Land would be valued as a terminable annuity. (3) This whole doctrine overlooks the inevitable consequence that, if "the selling value of land is an untaxed value" and if "the burden of a land tax cannot be made to survive a change of ownership," these facts would so

[3] See the paper upon "The Single Tax" by C. B. Fillebrown in *State and Local Taxation* (Proceedings of the National Tax Association), Vol. I, pp. 286–293.

[4] See Chapter XXII.

increase the demand for land that the profits from its purchase and ownership would not exceed profits in other lines of investment. Given plenty of time, active competition, together with a knowledge of the facts of the situation, and such inequalities of taxation are inevitably smoothed out by the natural movement of capital toward the taxless field or away from the field in which burdens are particularly severe.

The inevitable reckoning of taxation among the disadvantages of industry brings it to pass that *many old taxes are diffused over the entire community*. Such diffusion does not take place when the nature of the supply prevents it from varying in nice correspondence with the prospects of profit. A poll tax upon laborers, for instance, will in our opinion not be shifted, as it is likely to lower their standard of living, stimulate the birth rate, and in turn (other things being equal) actually reduce wages. But taxes on capital and business will generally be diffused; and for this reason there is a profound practical truth in the famous dictum of Canard that "every old tax is good; every new tax is bad," when sympathetically interpreted. Of course this conclusion does not warrant the retention of old taxes which are widely evaded and so fall with recurrent injustice upon honest taxpayers who pay them. And the tax system should vary with changes in the fortunes of business enterprise. The development of a new industry making unusual and unexpected profits offers a good opportunity of relieving an old industry that has unexpectedly fallen upon evil days. For this and other reasons it is desirable that state constitutions prescribing a rigidly uniform system of taxation should be amended so as to permit reasonable classification of property and business for purposes of taxation. All these qualifications of the diffusion theory are true and important. But the fact still remains that under ordinary conditions nothing is worse in a tax system than uncertainty, continual tinkering with terms, and capricious readjustment of methods.

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CHAPTER XXXVII

FEDERAL, STATE, AND LOCAL TAXES

Federal Taxation

Constitutional Limitations. — The fundamental character of the American revenue system is determined by those clauses of the federal constitution which provide that "direct taxes shall be apportioned among the several states . . . according to their respective numbers"; that "all duties, imposts, and excises shall be uniform throughout the United States"; and that "no state shall, without the consent of Congress, levy any imposts or duties on imports or exports, except what may be absolutely necessary for executing its inspection laws."

Just what the words duties, imposts, excises, direct and indirect taxes signify, as used in the constitution, has been a matter of considerable discussion. Ordinarily the word *duty* "means an indirect tax imposed upon the importation, exportation, or consumption of goods," being given "a broader meaning than *custom*, which is a duty imposed upon imports or exports," while "the term *impost* also signifies any tax, tribute, or duty, but it is seldom applied to any but indirect taxes. An *excise* duty is an inland impost levied upon articles of manufacture or sale, and also upon licenses to pursue certain trades or to deal in certain commodities."

All these differences turn largely upon the meaning of the words *direct* and *indirect* taxes. According to most economists direct taxes are taxes levied by the State upon those who are expected to bear their burden, while indirect taxes are supposed to be shifted to others. In the economic sense, therefore, poll taxes, property, income, and inheritance taxes are usually called direct, while customs taxes and excise taxes are called indirect. But these terms are exceedingly vague because their meaning turns upon expecta-

tions concerning the shifting of taxes, and upon few subjects is there more uncertainty, both of fact and opinion.

This is graphically illustrated by the history of the federal income tax. During the Civil War, the federal government made important use of the income tax and collected over $370,000,000 from this source before the tax was discontinued in 1872. In 1894, in a period of financial emergency, the tax was reintroduced. Its constitutionality was promptly challenged, and in 1895 it was declared invalid by the Supreme Court as an unapportioned direct tax — or more accurately, because it acted so much like a direct tax in practice that it was invalid unless apportioned among the several states according to population. Notwithstanding this decision, what was in practical effect an income tax on corporations was introduced in 1909. It was justified by the Supreme Court as an excise tax; but the principal difference between this excise tax and an income tax appears to have been the verbal point that, instead of being levied directly *upon* income, it was imposed " with respect to the carrying on or doing business " by corporations and *measured* by their income. Later, in 1913, the sixteenth amendment to the Constitution was ratified, which provides: " The Congress shall have power to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several states and without regard to any census or enumeration." But it is worthy of note that the Supreme Court, in a number of recent decisions, appears to have plainly intimated, in advance of a case specifically raising the point, that the Congress may not impose an income tax upon interest derived from state and municipal bonds, even though the sixteenth amendment gives the Congress " power to lay and collect taxes on incomes, *from whatever source derived*. . . ."

This probably means that the evil caused by the tax-exempt bond mentioned in the preceding chapter, can be remedied only through the lengthy process of adopting another constitutional amendment. Unfortunately, it is very doubtful whether an amendment so framed as to supply a real remedy would be ratified by the requisite number of states. The history of the federal income tax is a striking illustration of the dangers involved in the use of poorly defined economic terms and of the metaphysical complexities introduced into tax

legislation by constitutional limitations. Historically, such restrictions may have been necessary in the United States, but none can deny the enormous difficulties which they throw in the way of consistent and business-like tax legislation.

Use of Direct Taxes by the Federal Government. — Until the twentieth century, the constitutional limitations which we have been discussing served to concentrate federal taxation almost wholly upon consumption, since direct taxes when apportioned according to population have shown themselves to be unjust, unproductive, and exceedingly difficult of collection. Congress has made use of direct taxes only five times during the history of the national government. Two million dollars was apportioned in 1798; $3,000,000 in 1813; $6,000,000 in 1815; $3,000,000 in 1816; and $20,000,000 in 1861. Except in the tax of 1798, Congress has always permitted any state to assume its quota and raise the money as it saw fit, although provision was always made for its collection by federal officers, in case the quota was not assumed by the state government. It would be difficult to exaggerate the unsatisfactory character of such taxation. In no case has the federal government ever collected the full amount of the tax. The taxes levied in 1814–1816 continued to be collected until 1839. The last payments on the direct tax of 1861 were not received until 1888; and in 1891 a law was passed abolishing further collections and authorizing the amounts which had been collected under the act of 1861 to be returned. Considerable scandal arose out of this refunding act, owing to the enormous commissions paid to certain lobbyists for their work at Washington in securing the passage of the law. Until the adoption of the sixteenth amendment, therefore, the federal government relied almost exclusively, in ordinary years, upon customs duties, excises, and similar taxes.

Customs Duties. — Among federal revenues, customs duties held the place of first importance for many generations. From the foundation of the federal government until the Civil War, with the exception of a few years, nearly all of the ordinary revenue was derived from customs; and from the Civil War until the World War considerably more than half of the ordinary revenue in the average year was derived from this source. During the World

War, however, the import duties showed their undependability, yielding less than 5 per cent of the total tax receipts in the fiscal year 1918. More recently they have been rising rapidly, both in absolute and relative importance, and their yield in the fiscal year 1929 — $602,000,000 — was the largest, with the exception of the year 1927, in the history of the country.

Historically, customs receipts in this country have shown a perverse variability, expanding when increased revenue encouraged extravagance and contracting when the country sorely needed additional revenue. Between 1791 and 1860 inclusive, the customs receipts actually exceeded the expenditures in thirty-four years; varied between 50 and 100 per cent of the expenditures in twenty-eight years; and fell below 50 per cent in eight years. In 1860, more than 84 per cent of the expenditures were secured from this source, but in 1863 less than 10 per cent, so inadequate is the customs revenue in a serious war when money is most needed. In 1864, Congress made desperate attempts to increase the customs revenue. In the tariff act of that year about fifteen hundred articles were enumerated, and the average rate approximated 50 per cent; yet the receipts dropped from something over one hundred and two millions in 1864 to less than eighty-five millions in 1865, constituting only 6.5 per cent of the total expenditures in the latter year. In 1914, the customs collections amounted to $292,000,000; but they fell to $183,000,000 in 1918. During the history of the national government, the customs revenues have varied with the industrial condition of the country, the prospects of peace or war, the power of the tariff lobby, the prosperity and commercial policy of foreign nations, but almost never in nice accordance with the financial needs of the federal government. Where the tariff is controlled by revenue rather than protective purposes, it can be made strikingly stable and responsive to the control of the treasury. "The English revenue from this source has kept very near £20,000,000 per annum for the last thirty years. In the period 1815–1895, it has only varied between £24,000,000 and £19,000,000, notwithstanding the extensive remissions of taxation." [1]

[1] C. F. Bastable, *Public Finance* (The Macmillan Co., New York, 1903, 3d ed.), p. 517.

From the fiscal standpoint, our tariff system is far too *complex and cumbersome*. Whether we tax many imports or few, the major part of the revenue comes from comparatively few imports, so that by extending the list of dutiable articles we merely add to the cost of collection and increase the interference with commerce, without materially augmenting the yield of the tax. Before the World War, Great Britain imposed import duties on less than fifty articles, and nearly all of her revenue from import taxation came from five articles: tobacco, tea, spirits, wine, and sugar. Compared with direct taxes the cost of collecting our import duties is not excessive (3.08 per cent of the receipts in 1928), yet it exceeds the cost of collecting the internal revenue duties (1.17 per cent in 1928); and in some customs districts the expenses actually exceed the tax collected.

There is no better illustration of a complex and incomprehensible revenue system than the tariff legislation of the United States. It levies import duties upon goods that make up the country's exports as well as upon those that constitute the normal imports of the nation's commerce; it taxes raw material as well as the manufactured product, and the manufactured product itself is taxed at many stages in the process of its manufacture; the rate imposed is determined in part by considerations of revenue, in part by the desire to grant "incidental protection," and in part for the purpose of prohibiting the import of selected articles; the rules of rating are numerous, overlapping each other in many cases and resulting in a confusion of instructions that necessitates a board of appeal in continuous session; the text of the law makes a book of one hundred and fifty pages, while the law and its interpretation used by the officials as a guide in the performance of their duty is a volume of several hundred pages. A law of this sort cannot be comprehended.[2]

Customs duties are either *specific* or *ad valorem*. *Specific duties are levied in proportion to weight or number, without regard to value*, while *ad valorem duties are levied in proportion to the value of the commodities imported*. Ad valorem duties are open to the objection that they offer a greater temptation to fraudulent valuations, and hence make more difficult the work of the customs officers. Specific duties, on the other hand, while they can be more easily admin-

[2] H. C. Adams, *Science of Finance* (H. Holt and Co., New York, 1924). The Tariff Act of 1922 makes a volume of 198 pages, and the Customs Regulations a volume of 700 pages. To settle the intricate questions involved a Board of General Appraisers and a Court of Customs Appeals are maintained, in addition to the Tariff Commission.

istered, are open to the serious objection that they impose a relatively heavier burden upon the less valuable goods of any class.

From the beginning of the federal government, our customs duties have been in spirit, if not always in effect, protective. Protective duties are imposed in the hope of diminishing imports and substituting in their stead the products of home manufacturers. To the extent, therefore, that they are successful in their purpose, they reduce the customs revenues and justify the statement that there is a fundamental antagonism between the protective and revenue principles. However, the reduction of importation does not signify that the consumers of the articles in question are not taxed. It is obvious that no protection is given unless the price is raised. So long as the price remains higher than it would be if no duty were imposed, the people are taxed to the extent of the difference, the proceeds of the tax going to home manufacturers in the form of an unmeasured, unregulated bounty, whose burden upon the taxpayers is no less real because unperceived. The reply of protectionists to this is that the bounty is justified because of the resulting stimulus to wages, profits, and business activities in general.

The popularity of customs duties is largely explained by the belief that the foreigner bears the burden of the tax. This disputed question is too intricate to be discussed in detail here. In general, the incidence of import taxes is similar to the incidence of internal sales or excise taxes. When first imposed, the producer or seller may, in a comparatively large proportion of cases, be compelled to absorb or bear them. And in a few exceptional cases they may remain for a long period upon the foreign producer or dealer. But in a large majority of cases, in the long run, they are paid by the consumers as internal sales taxes are paid. In any event, the conclusion appears to be reasonably certain that whatever the extent to which the foreigner can be made to pay the tax, to that extent the tariff fails to replace foreign by home products, in short, it fails to "protect." We cannot have our cake and eat it, too. The more the protection or bounty to home manufacturers, the greater the tax upon the consumer, the less the shifting of the tax to the foreigner, and the less the revenue to the home government. The

protectionist is logically deprived of the argument that the foreigner foots the bill.

Principal Internal Taxes. — A general idea of the principal federal taxes and of the way in which the federal tax system was revolutionized by the World War may be gathered from the tables which follow. Table XLVII contrasts totals for the last fiscal year before the war, the fiscal year 1920 in which federal tax receipts were at their peak, and the fiscal year 1928. The figures show or suggest the marvelous elasticity of the income tax and the way in which it displaced customs and other indirect taxes as the principal source of federal revenue. Table XLVIII gives further details for the fiscal years 1921, 1925, and 1928. Perhaps the most striking feature of this table is the extent to which the receipts are dominated by certain taxes (those on incomes, estates, and capital stock of corporations) which are warmly championed by the more radical or progressive political elements of the country. These taxes yielded in the fiscal year 1928 just two thirds of the total tax receipts. On the other hand, the sumptuary excises, now consisting almost wholly of taxes on tobacco, remain very important. It may be noted that most of the taxes on transport and transmission have now been repealed. Financially speaking, prohibition cost the federal gov-

TABLE XLVII

SUMMARY OF FEDERAL TAXES: 1928, 1920, AND 1914
(in Thousands of Dollars)

SOURCES	1928	PER CENT OF TOTAL	1920	PER CENT OF TOTAL	1914	PER CENT OF TOTAL
Internal Revenue:						
Income and profits taxes	$2,174,574	64.5	$3,956,936	69.1	$ 71,381	10.6
Other internal revenue	615,962	18.4	1,450,644	25.3	308,627	45.9
Total	2,790,536	82.9	5,407,580	94.4	380,008	56.5
Customs receipts	573,969	17.1	323,536	5.6	292,320	43.5
Grand total	3,364,505	100.0	5,731,116	100.0	672,328	100.0

ernment a pretty penny. In 1919, for instance, distilled spirits and fermented liquors yielded nearly $500,000,000; but only about $15,000,000 was collected from that source in the fiscal year 1922.

Income Taxes. — The rapid growth of effective income taxation in this country affords an instructive illustration of the triumph of an economic idea over formidable obstacles. The legal barriers which had to be surmounted have already been briefly mentioned, but there were other difficulties to overcome, equally formidable. Income taxes had been on the statute books of certain American commonwealths since the seventeenth century, and had been consistently and continuously ineffective. The tax was generally believed to be too inquisitorial for the American people, schooled by the crudities of the general property tax to evasion of and contempt for tax law. Many authorities had come to the conclusion that the income tax, though "sound in theory," made too many demands upon both the taxpayer and the tax administrator to thrive in American soil.

The mistake of the experts arose rather from an underestimate of the strength of the income tax than from an underestimate of its difficulties. The alleged weaknesses of the income tax were not imaginary. Experience has shown that it is a complex and difficult tax to formulate and administer. Just what items of gross income should be included and what losses, expenses, and other deductions allowed, are questions which bristle with difficulties. It has proved exceedingly difficult to dovetail or articulate the graduated or progressive tax on individuals with the proportional or degressive tax applied to corporations. It has, moreover, some undesirable class features: under the federal income tax returns are made by less than 4 per cent of the population, and 2.27 per cent of the taxpayers, with incomes over $25,000, having 28.3 per cent of the net income, paid 87 per cent of the total personal income tax for the year 1928. The tax is predominantly an industrial or city tax, and farmers generally escape, owing to the facts that they usually do not keep books, that much of their income does not find expression in terms of money, and that relatively few farmers receive incomes above the authorized exemptions and deductions. The heavy rates introduced during the war made it necessary to employ a large

TABLE XLVIII

SOURCES OF FEDERAL TAX REVENUE, FISCAL YEARS 1921, 1925, 1928,[3] ON BASIS OF REPORTS OF COLLECTIONS

TAX	1921	1925	1928	1921	1925	1928
	(Amount in Thousands)			Percentage Distribution		
Corporation income tax	$3,228,138	$ 916,233	$1,291,846	65.8	29.2	38.3
Personal income tax [a]		845,426	882,728		26.9	26.2
Estate tax	154,043	108,940	60,087	3.1	3.5	1.8
Corporation capital stock tax	81,526	90,002	8,689	1.7	2.9	0.3
Transport and transmission taxes	301,512			6.1		
Sumptuary excises [b]	342,000	375,282	415,856	7.0	11.9	12.4
Automobile and motorcycle excises [c]	64,388	94,142	51,628	1.3	3.0	1.5
Other excises [d]	419,622	141,397	77,240	8.6	4.5	2.3
Miscellaneous internal revenue [e]	4,128	12,718	2,462	0.1	0.4	0.1
Total internal revenue	$4,595,357	$2,584,140	$2,790,536	93.7	82.3	82.9
Customs receipts	308,025 [f]	555,202	573,969	6.3 [f]	17.7	17.1
Total tax revenue	$4,903,382	$3,139,342	$3,364,505	100.0	100.0	100.0

[a] Includes excess profits tax.
[b] Includes tax on spirits, fermented liquors, tobacco, oleomargarine, opium, and narcotics.
[c] Includes only collections on passenger automobiles and motor cycles.
[d] Includes tax on manufactures and products (other than automobiles), sales, stamps, playing cards, insurance, beverages (non-alcoholic), occupations (special, admissions and dues).
[e] Includes receipts under national prohibition act, collections through customs offices, delinquent taxes, etc.
[f] On basis of warrants drawn, adjusted to basis of daily Treasury statements, revised.

[3] From National Industrial Conference Board, *Cost of Government, 1926–1927* (New York, 1928), p. 67.

number of intricate devices, so that the law has become almost unbelievably complex, and its application uncertain. Decisions involving hundreds of thousands and sometimes millions of dollars often turn on metaphysical niceties of interpretation; and additional taxes are frequently imposed upon innocent and well-meaning taxpayers three or four years after returns have been made and the taxes paid. However, striking improvements in the administration of the federal tax have been made recently.

Despite all these weaknesses, the income tax has been in many ways a conspicuous success. It showed wonderful elasticity and productivity during the war. It yielded a respectable amount in the fiscal year 1914, but by 1920 its yield had increased more than fifty-fold. The fact that it is only imposed when the taxpayer has some income with which to pay — or with which to set aside a reserve to meet the tax — is a practical virtue of the greatest importance. For the great majority of taxpayers it imposes, with the rough accuracy that alone can be expected in tax laws, "taxation according to ability." Property taxes pay little attention to the ability of the owner of the property. They fall upon property as such, whether it is free or encumbered by debt; they must be paid by the unsuccessful as well as by the successful, in lean years as well as in fat years. The income tax, on the other hand, does not affect the very poor at all; it spares the unsuccessful business man, the new business in its developmental stage, and old established enterprises in times of business depression. In the last twenty years practically every large country in the world which did not already have the income tax has introduced it. It is now employed in fourteen of the American states, in some of which it provides an indispensable part of state revenue.

Excess-Profits Tax. — During the early years of the war, the need for revenue naturally led to the adoption of special taxes on the profits made by munitions manufacturers. The idea expanded in a short time into taxes on war profits and then to taxes on excess profits. "War profits" were measured, in general, by the excess of the taxpayer's profits for the taxable year over his average or normal profits before the war; while in this country and Canada, "excess profits" were usually measured by the excess of the taxpayer's

profits for the taxable year over his assumed normal profits measured as a percentage — *e.g.* 8 per cent — of the invested capital. The rates were high, rising in this country to 80 per cent of the war profits for the year 1918. In 1921, the last year for which the tax was levied in this country, it applied only to the profits of corporations in excess of a credit or exemption of $3000 plus 8 per cent of the invested capital. The rate was 20 per cent on the amount of profits in excess of the exemption but not in excess of 20 per cent of the invested capital, and 40 per cent on all profits in excess of 20 per cent of the invested capital.

As a war expedient, the excess-profits tax was strikingly successful. In its second year, 1918, it yielded over $2,500,000,000, probably the largest amount ever produced in any country by a single tax; and the war profits upon which it was laid, and from which it was paid, constituted a source which by every proper test should have been utilized immediately to cover as large a portion as possible of the expenses of the war. But its complexity and inequality could with difficulty be exaggerated. As was pointed out in the chapter on profits, it is impossible to measure normal profits in any simple way; and the American plan of computing normal profits as a flat per cent of invested capital proved even more defective in practice than it was in theory. The measurement of statutory "invested capital" was even worse. This measurement was based on the value of the capital originally invested, although earned surplus retained in the business was included. Later valuations of the capital were in general prohibited. The result was that old corporations suffered greatly in comparison with those which were organized or reorganized at a later date, when prices were higher. Corporations which were conservatively financed suffered in comparison with those which had capitalized their good will, brands, and other intangibles, or which had valued their properties at later and higher prices. Corporations which had plentifully watered their stock in the past derived a distinct advantage from this fact; and until special measures of relief were taken in later acts, small corporations were taxed relatively more heavily than large corporations. Owing to the complexities of the tax, the audit of the returns was greatly delayed. Many important cases involving this

tax, which was repealed at the close of 1921, still remain open and unsettled in the year 1930. The resulting uncertainty and delay became at times a serious menace to business.

After 1917 the excess-profits tax in this country was confined to corporations. It did not touch the individual investor and, with few exceptions, it did not touch investment corporations, which seldom earn at a rate in excess of the credit or exemption. Corporations and men who were so wealthy that they could specialize in gilt-edged investments escaped the tax, because absolutely secure investments seldom yield over 8 per cent. When the normal exemption is computed as a per cent of invested capital, the tax falls upon the more hazardous industries in the years in which they happen to make money. These are fundamental difficulties. Attempts to revive the excess-profits tax will recur in the future. Although there are great theoretical possibilities in a business tax confined to "supernormal" profits, the excess profits tax should not be adopted again until we can define normal profits in terms which are simple, capable of administration on a wholesale scale, and free from gross inequalities.

Consumption Taxes. — The taxes on beverages, tobacco products, and admissions, although collected from the producer or seller, are for the most part shifted to the consumer and may properly be treated as consumption taxes, although in some degree they fall upon productive or business consumption.

Some critics object to these taxes because they do not conform to the principle of ability to pay. The proper answer to that criticism has been given in the preceding chapter. They have, or the best of them have, the practical, administrative virtues. They are productive, inexpensive to administer, certain, payable piecemeal in minute amounts for the most part, and with some exceptions fall upon articles which are not absolute necessities. Moreover, they now supplement a system of direct taxes which in the main is highly progressive. Their regressivity is neutralized by the progressivity of the system of which they are a subordinate part.

Some of the specific sales taxes imposed during the War, such as those on fountain drinks and certain medicinal articles, were widely evaded. This is likely to happen whenever the article taxed is

difficult to define with precision. In such cases the tax should be repealed because it produces a demoralizing and unfair competition between those who pay and those who do not pay the tax. But most of the consumption taxes have been repealed, and those which remain are among the most satisfactory taxes which we have.

The dealers who pay these taxes object to being singled out for taxation when other wares and commodities are not taxed. This objection we think may fairly be dismissed where the tax has been imposed for a number of years and is not otherwise objectionable. Such taxes are shifted to the consumer. The manufacturer or dealer does not really bear them. The industry or article simply serves as a convenient point at which to tap a taxable surplus of the consuming public, the existence of which surplus is revealed by the enormous amounts regularly spent for luxuries, some of them plainly harmful. The imposition of the tax casts no stigma upon the industry. The industry simply serves as a tax gatherer. Such tax gatherers, or such taxes, form an important part of the revenue system of practically every nation, and have done so for centuries. Their justification rests upon the best of all grounds — experience. They are not supposed to conform to tests of equality and uniformity. There is no reason why they should be general or universal. Such taxes should be relatively few in number, imposed upon clearly defined non-essentials of widespread consumption upon which a reasonable rate will yield a large revenue, and collected at that point of manufacture or distribution where the trade or industry is most highly concentrated. Thus a federal tax on gasoline should be collected not from the widely scattered producers nor from the thousands of small distributors, but at the refineries.

The Sales Tax. — Shortly after the close of the war, those who were subject to the special sales taxes, and the increasing number of those who suffered from the complexities and delays of the income tax, organized a strong movement for the introduction of a general sales tax. The proposal takes different forms. Some propose to tax all sales, others would confine the tax to sales of goods, wares, and commodities (excluding sales of so-called capital assets such as land and securities), while others propose to confine the tax to sales of goods, wares, and commodities made by manufacturers, pro-

ducers, and wholesale dealers, excluding retailers. Opinions differ also about the purpose of the tax or its proper place in the federal tax system.

Historically the sales tax has a dark record, and Adam Smith regarded the *Alcavala*, a Spanish tax on sales, as the cause of the ruin of the agricultural and manufacturing industries of Spain. But these injurious results were probably due to the very heavy rates at which the tax was imposed in earlier times. Experience with low-rate sales taxes in the Philippine Islands, Canada, France, Germany, and other countries indicates that a carefully formulated sales tax may possess all the great practical virtues which have been associated with the best consumption taxes: high productivity, certainty of obligation, and piecemeal payment.

The principal weakness of the sales tax is that it is not needed by the federal government; and is not suited to the state or local governments. If it were possible to replace the federal income tax with a general sales tax, the proposal would be worth consideration. The sales tax would be so much simpler that many persons might prefer it. But no simplification can be effected by adding to the greater complexities of the income tax the lesser complexities of the sales tax.

Experience makes it amply clear that no single tax could or should be used as the basis for federal revenue. In the tax system of the modern State there will be and should be some taxes on consumption and some taxes based upon ability to pay. The sales tax cannot fill the function of the latter. If we should adopt a sales tax in lieu of the income tax, within a few years popular opinion would force the adoption of a progressive ability tax of some kind to balance the regressivity of the sales tax. This happened in the Philippine Islands, where a few years after the introduction of the sales tax a progressive income tax was placed upon the statute books. If, on the other hand, we disregard ability to pay and judge proposed taxes merely by criteria of certainty, productivity, and simplicity, then a few specific sales taxes on selected commodities are plainly preferable to a general sales tax. They beat the more general sales tax at its own game. Why add to an overloaded tax system, the new administrative burdens of a general tax, requiring supervision of

millions of taxpayers, when it is easy to raise all the additional revenue required from a few selected sales taxes which would touch only a few thousand taxpayers and involve little administrative expense?

Inheritance Taxes. — In 1893, when the first edition of this work was written, the inheritance tax was used in only five states, and so strong were the objections to its wide adoption that the author felt called upon to point out that unregulated collateral inheritance was an unjustifiable survival of the clan system that was being carried to ridiculous lengths at that time. Since that time, however, inheritance taxation has spread rapidly, being employed in all but three states and the District of Columbia in 1928. With the spread of the tax has come a most significant development of progressive rating and taxation of direct as well as collateral heirs. Today one never hears of the "inherent right" of decedents to control absolutely the disposition of their property in perpetuity, and the right of the legislature to regulate inheritance in behalf of the general social interests is hardly disputed. Mr. Andrew Carnegie, for instance, advocated a rate of 50 per cent upon the estates of millionaires.

The inheritance tax is not yet a major tax in this country, as the death duty is in England. In 1925 the states collected $85,894,000 from this source, and the federal government well over $100,000,000. Owing to the 80 per cent credit for state inheritance taxes paid, briefly described on page 792, the federal collections fell to about $60,000,000 in 1929 and it is likely that the collections will be materially smaller in the future. But the credit stimulates the states to increase the rates of their inheritance taxes, so that in general what the federal government loses the states gain.

The federal tax and the credit in particular are strongly opposed by many sincere people who regard the credit as an officious attempt on the part of the federal government to coerce the states. This opposition is particularly strong in the state of Florida, which has a constitutional amendment prohibiting the imposition of inheritance or death taxes. In Florida, accordingly, the federal government collects its full tax and keeps it.

This question is not easy to decide. It is true that the federal government does not greatly need this tax and it is also true that the

credit exerts a pressure upon the states to adopt rates that will make their tax at least equal to 80 per cent of the federal tax. That much the states can collect without imposing any real burden on their citizens.

We believe, nevertheless, that the federal tax should be retained for some years at least. The greatest evil of taxation in this country at the present time arises from the excessive taxes imposed upon real estate, particularly land owned by farmers, home owners, and small business concerns. The inheritance tax is needed to reduce the burden of the property tax. But the states which would like to do this cannot use the inheritance tax effectively if they must compete with states which impose no inheritance tax at all. Rich men will take up their domicile in the states which offer exemption or impose very light inheritance taxes, — taxes inadequate to reduce the burden of the property tax. We believe that an adequate inheritance or estate tax should be imposed at substantially uniform rates throughout the United States, for the purpose stated. A federal tax at approximately the present rates with a large proportionate credit, impresses us as helpful and possibly indispensable to the adoption and maintenance of an adequate inheritance tax. The federal tax and credit are justly subject to many of the criticisms directed against them. But the alternative of repeal is open to even greater objections.

State and Local Taxation

General Property Tax. — The key to the revenue system of our state and local governments, and by far the most important tax collected in the United States, is the general property tax, which supplies more than three fourths of the tax receipts of the state and local governments. The most important characteristic of this tax is suggested by the word "general," — *the tax is levied in theory upon nearly all property, real and personal, in the hands of the people.*

Though the administration of the property tax differs in many details among the states, it is the usual custom for assessors in each community to prepare complete statements of all kinds of taxable property owned by the people of the community. In

some states the assessors receive from all residents sworn "lists" of property owned and subject to tax. By the terms of the law the property is supposed to be rated at its true full value, though, by the acknowledged practice of assessors and courts of review, the real rates vary widely from state to state, from community to community, and from individual to individual. On the basis of the property valuations thus made the state and local governments levy direct taxes at a rate fixed from year to year according to fiscal needs. The tax is then collected by local officers, and of the whole amount the portion levied by the county and state is passed on to the designated officers after each minor political division has set aside its share.

As yet few economists who have written upon the subject, and few state officers who have had to do with the administration of the tax, have ever been able to speak of it except in terms of the severest condemnation. Naturally, then, there is now a strong tendency to work away from this form of taxation. Some of the many serious faults which the general property tax has everywhere shown call for comment and explanation.

1. *Unjust Apportionment.* — The first of the defects of the tax appears in the apportionment of the state's share of the tax. Each community has a narrow, selfish interest in reducing its assessment so that it may escape its just share of the tax. The same mean struggle is especially frequent between city and county districts. To correct the evil, boards of equalization are usually appointed, but experience has shown that such boards usually do their work in a most perfunctory way. Although earnest study of assessments may and sometimes does secure a substantially just apportionment between county and county, this equalization does not correct the glaring inequalities within particular counties, and even within single assessment districts.

2. *Inequality.* — In the second place, the general property tax has proved grossly inequitable in laying an undue proportion of its burden upon real property, allowing various forms of personal property to escape with a slight tax or with no tax at all. A secondary result of this inequality is that the rural districts bear a disproportionate burden, since the greater part

of the tax-escaping personalty is owned in the cities. Similarly, the available evidence indicates that in most places, large properties are assessed on the average at a lower proportion of true value than small properties.

3. Temptation to Dishonesty. — It follows from the evils already described that the general property tax leads to a shocking amount of dishonesty, perjury, bribery, and other forms of corruption. Indeed, as one writer has expressed it, "The general property tax has gone far toward making perjury respectable and even virtuous."

4. Fundamental Theoretical Defects. — But the most fundamental defect of the general property tax is found in the fact that it is an incongruous mixture of *real* and *personal* taxes. Real estate, in a great majority of states, is taxed at its situs, irrespective of ownership or the tax-paying ability of the owner. The personal obligation of the owner to support the government under which he immediately lives is met practically everywhere by that part of the tax which falls upon personal property, personal property paying at the domicile of the owner.

This distinction between real and personal property is artificial, inequitable, and illogically applied. Personalty, as a measure of ability to pay taxes, ought to be accurately computed by offsetting liabilities against assets, so that the taxpayer would pay only upon net assets. Yet no state grants full and complete exemption of debts; only a few states permit the subtraction of debts from personalty; the rest either refusing any abatement for debts whatsoever or limiting the abatement to subtraction of debts from money, or money and credits, or other restricted classes of personalty. Moreover, many states manipulate their definitions of real property in the most discreditable manner, causing many kinds of double taxation. To take a single illustration: most states tax the stock of foreign corporations held by resident citizens, whether the corporation pays full taxes at its situs or not. Many of these states tax their own or domestic corporations at full value, thus indorsing the theory that a corporation should be taxed as a business unit where the business is carried on. Nevertheless, they attempt to tax the stock of

foreign corporations when the stock is the only thing they can reach.

Reform of the Property Tax. — This brief outline of the evils connected with the general property tax furnishes us with the key to reform. By far the greatest reform that could possibly be accomplished would result from placing the work of assessment on a scientific basis, by appointing expert assessors under civil service protection, who would give their whole time to the business and hold their places during good behavior. Practically three fourths of the revenues collected under the general property tax come from the tax on real property. We shall undoubtedly keep the real estate tax. Scarcely any one advocates its abandonment or believes that it would be possible to get along without it; and with trained assessors it would be possible to make a substantially fair assessment of real property. Yet even the assessment of real estate is in most places today markedly unequal. We spend a great deal of time thinking out ambitious fiscal reforms that will remedy the present system by revolutionizing it, overlooking the fact that the remedy for the deepest and widest evil lies within our reach, neglected and unavailing, not because we are ignorant of its potency, but because we lack the will resolutely to apply it.

At the same time, no assessor, however expert and well paid, can ever be expected to assess all kinds of personal property with even approximate accuracy. To persist in the attempt to assess all the property of every person is simply to debase public morality and convince assessors that nothing short of divine wisdom will enable them to satisfy the requirements of the law. In short, the more intangible forms of personal property, if not all personal property, should be exempted from taxation, and the loss be made up by the introduction of simpler and more workable taxes. Probably the best substitute is an income tax.

The personal property tax on business and commercial concerns, with its impossible requirements of stock valuations, taxation of book accounts, bills receivable, and credits generally, should be replaced by a tax on gross earnings or net income. We should then have, in place of the general property tax, a tax

on real estate, a business tax, and a personal tax measured by net income. Although the real estate tax would in appearance take no cognizance of mortages or debts secured by the property and no account on the surface of the ability of the owner, it would not in reality wholly violate the canon of taxation according to ability. The man buying land on contract or subject to a mortgage would take into account the fact that he would be called upon to pay taxes upon the whole value of the property, irrespective of debt or incumbrance, and the price would be adjusted accordingly. Or, if he mortgaged his land after he had acquired ownership, he would be indemnified in most cases for paying all the taxes, by receiving a lower rate of interest on his mortgage than he would be enabled to secure if the creditor were liable for taxes upon that part of the property covered by the mortgage. Real taxes, which take no cognizance of the financial status of the owner, are not inequitable when they are consistently applied and supplemented by a separate system of personal taxation.

A Balanced Revenue System

There are, on the mainland of the United States, forty-eight separate sovereignties in addition to the federal government, and the resulting conflicts of jurisdiction give rise to the deepest defects of our revenue system. As a remedy for this evil, many authorities recommend a division or separation of revenues, by which certain taxes would be assigned to the federal government, others to the states, and still others to the local governments. This plan is usually referred to as the "segregation or separation of the sources of revenue."

The benefits that might be derived from a thoroughgoing system of segregation are many. But the trend of events suggests that reform must, in the main, be sought along other lines. The boundaries between state and federal finance become more indistinct with the passage of time. Both federal and state governments have recently adopted income taxes and inheritance or estate taxes. The state governments in recent years have made increasing and successful use of excise and sales taxes theretofore used almost exclusively by the federal government. In

commonwealth finance, similarly, there seems little disposition to separate clearly the sphere of state and local taxation. On the contrary, it is being recognized in increasing degree that to finance the state governments by corporation and indirect taxes which do not touch the great mass of citizens directly, stimulates extravagance on the part of the state legislature, and, in fact, leads to the reintroduction by the state of direct taxes on general property. Furthermore, there are some manifest advantages in the joint use of the same tax by several divisions of government. The central or larger jurisdiction not only finds it possible to employ expert aid, which the local government could not afford to hire, but it has a broader, more impartial point of view which serves to check local selfishness. Local authorities, on the other hand, frequently have a helpful knowledge of important facts and conditions which are likely to escape the agents of the central government. Joint use of the same tax also permits a wise compromise between central efficiency and the American demand for "local self-government."

A certain amount of segregation is, however, not only expedient but plainly necessary. Thus, the use of import and export duties is confined by the constitution to the federal government. In the domain of commonwealth government also there are certain enterprises, such as sleeping car companies, whose property or business is so difficult to localize that by common consent such companies are reserved for state taxation. For the same reasons, certain other corporations, such as telephone, telegraph, insurance, freight line, and equipment companies, should be, and rapidly are being, set aside for state or central taxation; and in the case of most "state-wide" public utilities there is obvious need for central assessment. In the past, it was common to assess separately the property of railways and similar public utilities in every tax district (including townships and even school districts) in which they operated, and this absurd *morcellement* is still practiced in some backward states. Many of the most important properties of such corporations cannot be intelligently valued without reference to the earnings or success of the business as a whole and this, as well as considerations of administrative

simplicity, makes valuation or assessment as a unit obviously desirable. When the central valuation is once made it is possible in some cases to distribute or apportion the valuation to counties or other large local subdivisions; but it is impossible to localize some businesses satisfactorily, and minute subdivision is in all cases undesirable.

Much that has been said above about state *versus* local assessment applies, in the case of interstate corporations, to the question of federal *versus* state assessment. Without federal control each state is tempted to select that form of taxation and to adopt that method of dividing or allocating corporate property and business for purposes of taxation which is most beneficial to itself. Under such circumstances some interstate corporations are taxed upon more than one hundred per cent of their property or business, while others take advantage of the absence of authoritative central control to assign, in their own accounting systems, excessive proportions of property and business to those jurisdictions in which taxes are lightest.

While federal regulation is justified by the same logic which sanctions state regulation of local taxation, it is very doubtful how far federal regulation can or should go. If the national government should require some form of federal incorporation for companies engaged in interstate commerce, it is possible that it would have power thereafter to prescribe the methods by which such interstate companies should be taxed under state law. This has been done in the case of national banks, although the power of the federal government to control taxation of national banks is clearer and probably greater than its potential power to limit the rate of taxation of ordinary business corporations engaged in interstate commerce. But if the proposed federal regulation were elastic enough to permit the rate of taxation to vary in each state with the average level or burden of taxation in that state, and vigorous enough to suppress double or multiple taxation, it would represent a great reform.

One important reform, however, could be accomplished at once. Some federal agency should at the earliest practicable date be directed to formulate and enforce some simple plan of allocating the

revenues and expenses of interstate corporations to the several states in which they operate. This is required not only for the fair assessment of state income taxes, but for the valuation of the properties of interstate corporations, as these properties can never be satisfactorily appraised without taking their earnings into account.

For reasons which appear in the preceding discussion, it would be misleading to formulate any clear-cut division of taxes among the federal, state, and local governments. A few forms of revenue will unquestionably be reserved for the use of one branch of government, but the pressure of increasing expenditure is likely to force a joint use of such major revenues as taxes on real estate, income and inheritance taxes, excise and stamp duties; and for these the ideal is joint administration, in which the relative impartiality and vigor of central administration may be supplemented and perfected by the more intimate knowledge of local officials.

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APPENDICES

APPENDIX A

THE DEVELOPMENT OF ECONOMIC THOUGHT

Economic Ideas in the Ancient World. — The impression is frequently given that there were no writings on economics before Adam Smith. This impression is erroneous, and derives its plausibility from the fact that before Adam Smith economic subjects were treated either disjointedly and in a monographic way, or else in connection with ethics and political philosophy. But in treating economics in connection with ethics and politics, the older writers were merely following an almost inevitable method of dealing with economic problems. Indeed, if we are to derive the utmost possible benefit from this brief survey of the development of economic thought, it is necessary to begin many centuries before Adam Smith, with the Greeks.

The Greeks. — The three writers among the Greeks most interesting to the economist are Plato, Aristotle, and Xenophon. Both Xenophon and Aristotle (or, more probably, some unknown disciple of Aristotle) have treatises upon the specific subject of Economics, but these are devoted principally to domestic economy, or the management of the household; and the more important economic ideas of the Greek writers are derived from their works which deal primarily with political and ethical subjects.

Plato describes a utopia in his *Republic*. His aim was to picture an ideal society in which the ills of society were to be corrected by a communistic State, and he included a communism even of wives and children, going farther than modern communists. The communism of Plato admitted, strange as it may seem, slavery, on which his social superstructure indeed rested as a base. The *Laws* of Plato is a more practical work. It aims to present not the best possible State, but a more practicable one, and deals to a greater extent with existing institutions.

Aristotle's principal work for us is the *Politics*, and it is indeed one of the most remarkable books in the world's history. Its influence is strongly felt today, for it was carefully studied by theologians of the Middle Ages, and through them entered into the thought and life of their time; and the thought and life of their time can be seen by the careful student to have entered in a thousand ways into the institutions of the twentieth century.

While Plato tacitly accepted slavery, Aristotle actively defended the institution of slavery, describing the slave as an "animated tool," and insisting that slave labor was necessary in order that the ruling classes might have the leisure for statecraft, art, and literature. Both Plato and Aristotle, also, fully appreciated the advantages of the division of labor,

and understood, in consequence, that a certain amount of traffic and exchange is necessary. But both writers shared the common prejudice against trade and commerce; what one man gained in exchange, they thought, some other man lost; and to live by trade was in their eyes despicable. Aristotle, moreover, defended the institution of private property, and formulated ideas about money and its functions that still influence men's thinking about those subjects, but he condemned interest taking because, as he expressed it, money is barren.

Perhaps the most characteristic quality of Greek economic thought, speaking generally, is the thorough subordination of economic to ethical and political considerations. The object of life, in their view, was self-knowledge or self-realization, not the acquisition of riches, and they refused to regard wealth as an object of fundamental importance to either the individual or the State. Plato, indeed, in certain parts of his writings, defends the ascetic idea that human wants are to be satisfied, not by the improvement of productive processes, but by the repression of the wants themselves.

The Romans. — While the economic institutions of the Romans and the manifestations of their character in their economic life will repay investigation, they were not remarkable for independent thought. Their economic ideas, like their philosophical doctrines, were borrowed from the Greeks, and show the same general characteristics which the ideas of Plato and Aristotle do. Commerce and trade were held in contempt, particularly when carried on in a small way. Interest taking was by some thought to be "as bad as murder." Agriculture, on the other hand, was esteemed to be worthy of the noblest citizens, and a "return to the soil" in later Roman times was frequently recommended as a cure for the prevailing degeneracy. Pliny said the great estates, the *latifundia*, together with slave labor and the destruction of the small independent farmer, caused the downfall of Rome. Among other agricultural problems discussed by the Romans were those of intensive versus extensive culture, and slave versus free labor.

The jurists are, however, the most important of all. Whatever may be its imperfections, the Roman law, the *corpus juris civilis*, is the most remarkable legal system the world has ever seen and for training in careful and accurate statement is unsurpassed. As a training for economic studies, Roman law is a valuable branch of learning. It gives us also invaluable information about the economic institutions of Rome.

Christianity. — To the economic thought of the time Christianity brought the revolutionary ideas of the dignity of toil and the equality of men before God. The philosophy of the Stoics had brought analogous ideas to the attention of the restricted intellectual world of the day, but Christianity popularized those ideas. The clergy were encouraged to earn their livelihood by manual labor, and laymen were exhorted to free their

slaves as soon as they had become Christians. With respect to money and trade, however, the effect of Christianity was to strengthen and impress the teachings of Aristotle.

The Middle Ages. — As the power of the Church increased, its economic ideas found more formal expression in the treatises of the schoolmen and medieval theologians who expounded the church or canon law. Indeed, in the *corpus juris canonici* we have a definite system of economic thought which, while it was largely theoretical and intended originally for the ecclesiastical courts, came in time to be widely applied in secular affairs through the power of the confessional, the pulpit, and the wide jurisdiction of the ecclesiastical courts.

The doctrines of the canonists were based, in part, upon biblical injunctions against usury and the pursuit of wealth. The early Christian fathers frequently went so far as to condemn private property and set up the ideal of communism among the faithful. But this was only an ideal, and private property was early recognized as a necessary evil resulting from the fall of man. This ideal, however, was powerful enough to keep alive the doctrine that the maintenance of the poor was not a matter of philanthropy, but a binding obligation, in the words of Thomas Aquinas, the most distinguished canonist, a *debitum legale.*

Following the philosophers of Greece and Rome, and in sympathy with the scriptural attitude toward wealth, trade and commerce were regarded as greatly inferior to agriculture and handiwork as a source of livelihood. It was still believed that what the seller made by trade the buyer necessarily lost. As commerce developed, however, trade had to be recognized by the Church. In doing so, the canon writers formulated the doctrine of *justum pretium*, that every commodity has a *just price*, or value, which it is sinful for the seller to exceed. The modern trade union doctrine of a *fair wage*, and the decisions of our courts concerning reasonable charges for gas, railway services, etc., illustrate the permanent necessity of ethical ideas of this sort.

The canonists condemned usury, which originally signified any loan interest, and not necessarily excessive interest. Their argument against interest was based upon scriptural strictures against usury, and upon Aristotle's argument that money is barren. Interest taking by the clergy had been prohibited as early as the fourth century; but in 1311, at the Council of Vienna, interest was prohibited "absolutely and universally," regardless of the civil law; and by the middle of the fourteenth century, the prohibition of interest had, in many places, been incorporated into the civil law. As industry and commerce expanded, however, the Church was forced, little by little, to change its attitude, and in the middle of the sixteenth century (1545) a statute was passed in England legalizing an annual interest rate not in excess of 10 per cent. By this time the teachings of the canonists were fast giving way to the doctrines of mercantilism.

Economic Ideas in Modern Times. — Before the close of the sixteenth century, the temporal power of the Church had been undermined by the development of the great modern monarchies, and in economic thought religious considerations were replaced by political necessities. The problem of the Church — the universal establishment of the Kingdom of God upon earth — gave way to a newer problem — the maintenance and aggrandizement of rival states. The latter were in pressing need of ready money with which to build navies and support armies. How to increase public revenue and national wealth became the absorbing questions of the time.

Mercantilism. — The mercantile system, also called Colbertism, restrictive system, and commercial system, obtained from the early part of the sixteenth century until late in the eighteenth century, and its influence is still felt. Mercantilism is not, strictly speaking, the product of a school of political economists, but rather the name given to the economic policy of statesmen which prevailed during the period and to the detached views of writers who explained or extolled the mercantile system. Most prominent among the statesmen who were mercantilists may be named Colbert, of France, Frederick the Great, of Prussia, and Cromwell, of England. Serra, an Italian, early in the seventeenth century presented a moderate and systematic statement of their views in a work entitled *A Brief Treatise on Causes which make Gold and Silver abound where there are no Mines.* Thomas Mun, in England, a generation later, wrote a valuable treatise from the standpoint of the mercantilists, called *England's Treasure by Foreign Trade: or the Balance of our Trade the Rule of our Treasure*, while Sir James Steuart's *Inquiries into the Principles of Political Economy*, published in 1767, may be regarded as closing the development of the theory of mercantilism.

The principal characteristics of mercantilism — the efforts to increase the stock of precious metals within the country, to maintain a favorable balance of trade, to increase the population and foster manufactures, if necessary at the expense of agriculture — have been described elsewhere, and need not be repeated at this point. In attempting to apply these theories, however, the statesmen of this epoch instinctively turned to that instrument — the law — with whose use they were most familiar, and statutory restrictions were multiplied until mercantilism in one sense became practically synonymous with governmental interference. Toward the end of the eighteenth century, however, the commercial position of England, for example, became so strong that many of her industries found themselves crippled and confined by the very laws which had protected their infancy, and a reaction against mercantilism set in. The reaction, naturally, took the form of a movement in favor of agriculture and against governmental interference in economic and industrial affairs. In obedience to the needs of a new epoch, political economy lent itself to a propaganda in support of the doctrine of industrial liberty.

The Physiocrats. — The reaction against mercantilism found its first thorough and scientific expression at the hands of the French physiocrats. Quesnay, a physician, Gournay, a merchant and administrator, and Turgot,[1] the statesman, are their three principal authors. Politically, the physiocrats taught the doctrine of natural laws and rights, and loudly proclaimed the maxim of *laissez-faire*, that is, that the government should not interfere with private enterprise. Economically, they exalted the importance of agriculture, and maintained that manufactures and commerce, which merely change the form or position of raw materials, are barren and unproductive (though useful when subordinated to agriculture); but that agriculture alone yields a net surplus — *produit net* — over and above the expenses of production.

Many of the other doctrines of the physiocrats follow logically from the primacy they accorded to agriculture. Holding that agriculture is the sole ultimate source of wealth, they maintained that the revenue of the State should be raised by a single direct tax — the *impôt unique* — levied upon land. All taxes must, they thought, in the end come out of land income anyway; and it was better that the landlord should pay them at once instead of waiting until they had passed through five or six hands and various profits had added to their amount. Naturally the physiocrats were ardent champions of free trade. They encouraged also the consumption of agricultural products, "in order that the *produit net* might be increased," and were generous champions of the importance and rights of the downtrodden peasantry. *Pauvres paysans, pauvre royaume; pauvre royaume, pauvre roi*, was the borrowed motto of Quesnay's *Tableau Economique*, the most important treatise of the physiocratic school.

Adam Smith. — In 1776 Adam Smith published his *Inquiry into the Nature and Causes of the Wealth of Nations*, the most influential economic treatise ever written. "The life of almost everyone in England, perhaps of everyone," said Bagehot, "is different and better in consequence of it." His writings are in some respects similar to those of the physiocrats, but in large measure independent, and further developed and modified by his Scotch training and habit of mind. We find in Adam Smith the doctrines of free trade, non-interference, and natural laws, yet all stated more guardedly. Although he does not regard agriculture as exclusively productive, he does show a partiality for agriculture, for in this branch of production, he says, nature labors along with man. He emphasized the importance of permitting each individual to follow his own self-interest as a means of promoting national prosperity, but he was not unmindful of the existence of altruistic motives in mankind. He accords full recognition to the motives of sympathy and kindness in his *Theory of Moral Sentiments*. But the

[1] Turgot did not count himself a member of the economic sect or school which gave their views the name of "physiocracy," but his economic doctrines are very much like theirs.

net result of Smith's teaching was to strengthen and emphasize the *laissez-faire* trend of economic thought in his time. "Two conceptions," said Arnold Toynbee, "are woven into every argument of the *Wealth of Nations*, the belief in the supreme value of individual liberty, and a conviction that man's self-love is God's providence, that the individual in pursuing his own interest is promoting the welfare of all." In its method, the *Wealth of Nations* remains an admirable example, uniting shrewd analysis with a masterly command of economic facts.

Economic Thought in the Nineteenth Century. — *The Classical School.* — The economic philosophy which prevailed during the first half of the nineteenth century is variously designated as the classical, Ricardian, English, or orthodox school. The earlier authors of this period were Jeremy Bentham (1748–1832), Thomas Robert Malthus (1766–1834), David Ricardo (1772–1823), James Mill (1773–1836), and John Ramsay McCulloch (1779–1864). In all of these writers we find the utilitarian philosophy, a deductive method, and the feeling that the outlook for the mass of the laborers was not a hopeful one.

Bentham's great work was the formulation and propaganda of the utilitarian ethics, with its famous first principle or goal of social action — the greatest happiness of the greatest number.

Malthus's principal contribution, contained in his celebrated work *The Theory of Population*, has already been discussed. His doctrine of population contributed more than any other single thing to make the political economy of the classical school harsh and gloomy. It *seemed* to say that although wages were low they could be no higher, because, if by some fortunate chance wages increased, population was sure to multiply until the wage was forced back to the old level. Poor relief and trade union activities were both useless. The woe of the poor was due to their own lack of foresight, and could be removed by the poor alone. It was taught "that he who brought children into the world without adequate provision for them should be left to the punishment of nature." The responsibility of poverty was thus thrust upon the poor themselves; the rich were soothed with the assurance that they were not primarily responsible for the condition of affairs. Malthus himself, however, did not frame his doctrine in so remorseless a way. He recognized the importance of what he called "preventive checks" to the increase of the population. Malthus brought the results of elaborate historical and statistical investigations to the support of his doctrines.

Ricardo was perhaps the first economist who adequately emphasized the important problem of the distribution of wealth. The backbone of his distributive system was the Malthusian law of population. Ricardo believed that as population increased, society would be forced to resort to poorer and poorer soils in order to obtain food; and as this took place an increasing share of the product of industry would go to the landlord in the

shape of economic rent. The division of the remaining product between labor and capital, in Ricardo's view, was determined largely by the standard of living; that is to say, the laborer would receive enough to purchase the necessaries and conveniences required to support him and his family in their customary style of living, while the residue would go to capital in the form of interest and profits. Profits were thus the "leavings of wages." With the passage of time, and the settlement of a country, then, Ricardo's theory of distribution taught that rent would absorb a larger and a larger share of the product, wages a constant or slowly increasing amount, while profits would dwindle both absolutely and relatively.

Ricardo's principal work was his *Principles of Political Economy and Taxation.* It was published in 1817, and in it Ricardo elaborates, although he did not originate, the doctrine of rent, which was accepted by economists for nearly a century and has not yet been discarded by all. His ideas in general have a markedly pessimistic tinge. Rent, he said, is due to the niggardliness, not to the bounty, of nature; and his theory of distribution emphasized the natural diversity of interest between wage receivers and profit makers, and the antagonism between the interests of landowners and all other classes of society. He made contributions of lasting importance to our knowledge of monetary phenomena and of international trade. Ricardo is remarkable for his power in the use of the abstract deductive method, and it is noteworthy that this distinction should attach, not to a professional scholar, but to one of the most successful brokers of his day.

John Stuart Mill, who lived from 1806–1873, closed one period in the development of economic science and began another in England. He started, under the influence of his father, James Mill, as a thoroughgoing follower of Ricardo, preserved the old doctrines of value, rent, wages, and profits, and advocated *laissez-faire* as a general principle of political expediency. But in his later years Mill advocated the diffusion of property through the regulation and taxation of inheritances, indorsed the appropriation by the State of the future unearned increment of land, and emphasized an important distinction between the production and distribution of wealth. "The laws and conditions of the production of wealth," he said, "partake of the nature of physical truths. There is nothing optional or arbitrary in them. . . . It is not so with the distribution of wealth. That is a matter of human institutions solely. The things once there, mankind, individually or collectively, can do with them as they like. . . . The distribution of wealth, therefore, depends upon the laws and customs of society. The rules by which it is determined are what the opinions and feelings of the community make them, and are very different in different ages and countries; and might be still more different, if mankind so choose."

The old and the new doctrines found in Mill's *Principles of Political*

Economy do not always harmonize, however, and the result is a work one of the most valuable and influential of modern times, yet full of inconsistencies. Nevertheless, Mill will always be regarded as the culmination of the school usually known as the English deductive or classical school. Most of the work of the school was deductive; that is, they reasoned by singling out a few main facts of the external physical world and human nature familiar to all, and showing how men must act under the guidance of these laws. None of these economists pretended that the few laws which they considered were the whole of human nature, though they have sometimes been interpreted as if they did so. Walter Bagehot said of English political economy: " It is an analysis of that world so familiar to many Englishmen, — the ' great commerce ' by which England has become rich. . . . Dealing with matters of ' business,' it assumes that man is actuated only by motives of business. . . . And this deceives many excellent people, for from deficient education they have very indistinct ideas what an abstract science is." Despite these limitations, the largest contributions that have been made to economic science came from the English classical school.

Socialism. — Mill's change of heart resulted partly from his study of the socialist writers, who voiced the earliest and most thoroughgoing protest against the views of the classical economists. Modern socialistic doctrine may conveniently be dated from William Godwin's *Inquiry concerning Political Justice* (1793), although Godwin himself was more of an anarchist than a socialist. Godwin and the early French idealists and communists, — Cabet, Saint-Simon, Fourier, etc., — began the attack on the ethical and political views of the orthodox political economy. Later the attack was continued in a somewhat more practical and realistic way by writers such as William Thompson and Robert Owen in England, Bazard and Louis Blanc in France, Rodbertus, Lasalle, and Marx in Germany. The foundation of classical political economy was *laissez-faire* and its doctrinal structure was built around the system of private capitalistic enterprise. Socialism in essence was a thorough protest against *laissez-faire* and the private ownership of property.

In recent times, largely under the influence of Karl Marx, socialism has acquired a distinctive economic theory of its own, built in part, however, upon the foundations laid by Smith and Ricardo. Marx, in his work on *Capital*, was in most ways more abstract, deductive, and pessimistic than any of the classical school. At bottom his whole theory was directed against those fundamental institutions of our social order which the classical economists took for granted. Marx's doctrines are built in part upon a materialistic or economic interpretation of history, and the whole tendency of the modern scientific socialists has been to emphasize the evolutionary standpoint.

The Sociologists. — Among other influences which changed Mill's con-

ception of economic science, and induced him to temper the rigor of his early teachings, were the works of Auguste Comte (1798–1857), the founder of modern sociology. Comte was especially severe in his criticism of the methods of the classical economists. He denied, in particular, that it is possible to develop a helpful science of economics distinct from history, ethics, and politics. Not only must these fields, he maintained, be cultivated in common, but the work must be done by inductive, as distinct from deductive, methods. Society, he held, is characterized by ordered change or evolution. The capitalistic stage, with which classical economics concerned itself, must be studied in connection with the past and the future. Economics, he particularly insisted, cannot be divorced from history.

The Historical School. — This particular line of thought was independently developed in Germany in the middle of the nineteenth century by three young Germans, Roscher, Knies, and Hildebrand, who vigorously assailed the doctrines of the classical school. They went back of the old premises — self-interest, private property, demand and supply — and tried to trace the historical development of economic life, coming to the conclusion that economic policies were not absolutely, but only relatively, right. They denied that economic science can discover laws which hold true for all times and all places. They emphasized the importance of inductive methods, and of the study of legal institutions, custom, and ethics in their relation to economic life. Most members of the school entertained a strong sympathy for policies of reform. Gustav Schmoller, the leader of the later or " younger " historical school, put especial stress upon careful, painstaking, detailed investigations of different phases of the economic life of the past and the present as a necessary preliminary to the construction of a real economic science.

Owing to the political ferment in Germany during the infancy of the historical school and the formation of the German Empire when this reaction against the classical economists was at its height, German political economy of the last half of the nineteenth century was impregnated with a striking nationalistic spirit which separated it even further from the cosmopolitanism of the English writers. The creation of a new state is almost invariably attended by the enactment of restrictive legislation, looking to the amalgamation of the diverse elements incorporated into the new state and the protection of its industries from foreign competition. *Laissez-faire*, under these conditions, is particularly difficult to maintain. The new national economy of Germany seemed to voice these political necessities. Like the classical economics of England, it was a creature of its own time and its own environment.

The Economic Optimists. — The Malthusian doctrine of population is tinged with pessimism, and so also is the Ricardian theory of distribution. In opposition to English economists, there was developed elsewhere, about the middle of the nineteenth century, a scheme of thoroughgoing economic

optimism, and this was presented in a more unqualified way by Frédéric Bastiat (1801–1850) than by any one else. Bastiat was an ardent agitator for free trade and a popular pleader for the existing order against the attacks of socialists and anarchists; he was the author of numerous pamphlets, and at the time of his death was engaged on a systematic treatise entitled *Economic Harmonies*, of which the first volume only was completed. According to Bastiat, there is no economic rent. The landowner does not receive an unearned income. Rent is simply a return for past investments of capital. The profits on capital also, according to him, are simply a return on past labor, and relatively to wages, a diminishing return. For it is a peculiarity of labor stored up in those products which we call capital, that it continually diminishes in value as compared with present labor. In other words, wages are continually gaining relatively as compared with the profits of capital. Capital may gain absolutely on account of the increase in the amount of capital. Wages gain both absolutely and relatively. Value gives us the ratio of exchange between services. Economic gain is in proportion to economic service except that labor is progressively a gainer on account of the fact that man's present services (as seen in labor) increase in value as compared with man's past services as accumulated in capital.

As Bastiat denied the existence of pure economic rent in the Ricardian sense, he also denied the Malthusian theory of population, holding that no proof could be adduced of a tendency of population to press upon the means of subsistence. The history of Western civilization during the first three decades of the twentieth century has borne out Bastiat's contention, in so far as we now have a surplus of food products. The evils that man experiences come, according to Bastiat, from man's interference with natural harmonies. Nature works things out well, and this is the best of possible worlds if we could only let nature have her way. Henry C. Carey, the American contemporary of Bastiat, held similar doctrines, and was apparently the more original man. If either one borrowed from the other, it must have been Bastiat, who had read Carey's first book before publishing his *Economic Harmonies* in 1850. Probably neither one was guilty of any conscious plagiarism.

Early American Economists. — The reaction against the English economists, it is interesting to note, began earlier in the United States than in England or Germany. In the early part of the nineteenth century, emphatic dissent from the English doctrines was voiced by a group of publicists, among whom may be mentioned Alexander Hamilton, Daniel Raymond, Matthew Carey, Hezekiah Niles, and Frederick List. Hamilton's work and views are well known; Niles and Matthew Carey were pamphleteers of considerable note in the first third of the nineteenth century; and List, who, in the view of some authorities, planted the seeds of the German historical school, unquestionably obtained some of his distinctive national-

istic views about political economy in the United States, and first formulated them in his *Outlines of American Political Economy*, published in 1827.[2]

Daniel Raymond, however, of all the American writers noted, is the least known, and yet the author of the first American treatise on political economy in which a distinctively American system of economic thought is suggested. Raymond's first book, *Thoughts on Political Economy*, appeared in 1820; a second edition, under the title *Elements of Political Economy*, appeared in 1823, and the latter was reprinted with slight changes in 1836 and 1840. The essence of Raymond's system is found in his concept of wealth. Wealth, he maintained, is not an aggregate of exchange values but the opportunity to acquire the material comforts of life by labor. The English political economy, in Raymond's view, was a study of private as opposed to political or national economy. Raymond emphasized the distinction between individual and social wealth, and maintained that the laws of wealth laid down by Adam Smith were untrue of a nation conceived as a unit. The interests of particular individuals, or particular classes, he argued, do not always coincide with the interests of the nation as a whole, and the latter, he concluded, will be best advanced by developing all the national powers to their widest possible extent. He was thus a warm advocate of protection as opposed to *laissez-faire*.

Raymond's views had so impressed Matthew Carey that he offered to support a chair of political economy at the University of Maryland if the University would permit Raymond to fill it. Matthew Carey's son, Henry C. Carey (1793–1879), by far the most influential of the early American economists, was in like manner probably influenced by the teachings of Raymond. Carey was an earnest champion of protection, an indefatigable critic of classical economic doctrines. He denied the truth of the Malthusian principle and the law of diminishing returns; objected to the Ricardian theory of rent; and maintained that the value of a commodity depends upon the cost of reproduction rather than the cost of production, as was, he thought, laid down in the classical theory of value. Carey entertained a concept of wealth very similar to that of Raymond, and in some parts of his work adopted methods of investigation which brought him in close touch with the sociologists and the German historical economists. The keystone of his economic system is the doctrine of association. The increasing mastery of man over nature, or the increase of wealth, Carey held to be dependent upon the increasing efficiency resulting from a compact, homogeneous population, in which agriculture and manufacture are conducted side by side, in which the home market idea is carried out in the most complete way, and in which, to be brief, the association of indus-

[2] List returned to Germany and was there a forceful writer and agitator for German unity, and is identified rather with the history of economic thought of Germany than with that of the United States.

trial and social units is most intense and intimate. The economic philosophy of Carey was inimical to free trade at every point.

The Austrian School. — The protests against the classical economists which we have been considering were directed largely against the scope they gave to economics and the methods they used. The Austrian economists represent a reaction not against their methods, but against some of their conclusions, and particularly against their theory of value. The great contribution of the Austrian school is the marginal utility theory of value, which has been most assiduously applied in economic analysis by a group of Austrian economists, among whom may be specially mentioned Menger, Wieser, Sax, and Böhm-Bawerk. But the marginal utility theory of value was advanced almost simultaneously, about 1871, by the English economist Jevons and the Austrian economist Menger.[3]

The Austrians have been a leading force in producing what is not inaptly termed a renaissance in theory. The classical theory put the emphasis upon supply or the conditions of supply, maintained that in the long run cost of production determines value, and found the ultimate measure and explanation of value in the pain and sacrifice of labor. The Austrians maintain that utility, the pleasure or satisfaction derived from consumption, is the ultimate cause and measure of value; they emphasize demand as the English economists emphasized supply; and hold that value determines cost of production and not the cost of production value. Capital, they conclude, receives its value from the finished product instead of giving value to that product. The work of this school has tended to put the consumer in the place primarily occupied by the capitalist as the center of discussion in economic theory and to emphasize a short-time rather than a " long-run " view of economic processes. The work of the Austrians has had a profound influence upon economic writing in the United States, and especially upon the work of John Bates Clark.

About the same time Jevons and Menger published their theories stressing the influence of demand on value, Walras, a French economist, then teaching in Switzerland, extended the marginal utility theory beyond its primitive simplicity and founded the School of Lausanne. He looked upon value as caused by neither cost of production nor marginal utility but as the resultant of the simultaneous and mutual interaction of these two forces. In England a similar reaction to the controversy between the cost of production theorists and the marginal utility theorists took place. Alfred Marshall, who is regarded as the most authoritative exponent of current economic theory, wrote: " The ' cost of production principle ' and the ' final utility ' principle are undoubtedly component parts of the one all-ruling law of supply and demand. Each may be compared to one

[3] In reality the marginal utility theory had been explained many years before this by a number of obscure writers whose ideas, however, never affected the main current of economic thought.

blade of a pair of scissors." [4] It is to be observed, however, that the Walrasian and the Marshallian solutions are not identical, for while Marshall, to prove his point, simply equates the marginal utility to the consumer with the marginal disutility to the producer for any one small limited group of commodities, Walras and his followers construct a series of equations showing that the balance between the consumer's marginal utility and the producer's marginal disutility is dependent, for any one commodity, upon the manner in which balances are established for all other commodities.

Present Condition of Economic Thought. — The net effect of all these protests against the classical English economists has been to introduce a welcome catholicity into the methods of economic investigation. The historical school emphasized the evolutionary standpoint and the necessity of minute investigation of the facts of industrial life, while the work of the Austrians operated to strengthen and explain the necessary place of deduction in economic analysis. Today the ordinary economist employs either method, or both, as the subject-matter demands, and the controversy about methods has become a thing of the past. With respect to the theory of value, neither supply nor demand, neither cost nor utility, neither the capitalist nor the consumer, is now said to exert a predominating influence in the determination of values. The Austrian school, it is now understood, supplied a needed corrective without revolutionizing the earlier theory of value. The Austrians themselves are seen to have been guilty of laying exaggerated emphasis upon the consumer's influence upon value and price, and there is reason to believe that their analysis is based in some degree upon a faulty psychology.

So, similarly, with respect to the scope of economics. Economics has never given itself to a complete study of politics or ethics. It considers ethical and political phenomena when these cannot be dissociated from economic phenomena, but insists, nevertheless, upon the separation of economics from ethics, politics, and sociology. We recognize that these fields are not wholly or clearly differentiated, but we recognize just as clearly that a division of labor is necessary if accurate results are to be achieved. Furthermore, this division of labor is showing itself progressively within the limits of economics itself, as it has shown itself in all growing sciences. Indeed, the present condition of economic thought was so accurately predicted by W. S. Jevons, in 1876, that his words — written in the midst of the controversy among the adherents of the deductive, historical, mathematical, and sociological methods of investigation — may well be employed to picture the condition of the science of economics as it exists today:

" As I have previously explained, the present chaotic state of economics arises from the confusing together of several branches of knowledge. Sub-

[4] A. Marshall, *Principles of Economics* (The Macmillan Co., London, 1920, 8th ed.), p. 820.

division is the remedy. We must distinguish the empirical element from the abstract theory, from the applied theory, and from the more detailed art of finance and administration. Thus will arise various sciences, such as commercial statistics, the mathematical theory of economics, systematic and descriptive economics, economic sociology, and fiscal science. There may even be a kind of cross subdivision of the sciences; that is to say, there will be division into branches as regards the subject, and division according to the manner of treating the branch of the subject. The manner may be theoretical, empirical, historical, or practical; the subject may be capital and labor, currency, banking, taxation, land tenure, etc., — not to speak of the more fundamental division of the science as it treats of consumption, production, exchange, and distribution of wealth. In fact, the whole subject is so extensive, intricate, and diverse, that it is absurd to suppose it can be treated in any single book, or in any single manner." [5] Does this imply that economics is condemned to resolve itself into a miscellany of unrelated studies of phenomena having nothing in common but the word "economic"? At the present time the need is being strongly felt for a synthetic view of the whole of the inductive acquisitions, historical and statistical, and of the deductive contributions, dialectical and mathematical. Several American economists, notably Henry L. Moore and Henry Schultz, are doing able work as pioneers in this field.

[5] Jevons, *Theory of Political Economy* (The Macmillan Co., London and New York, 1888, 3d ed.), pp. xv, xvi.

APPENDIX B

SUGGESTIONS FOR STUDENTS AND TEACHERS

Some teachers of economics rely chiefly upon classroom discussion of assignments in a textbook, supplemented, perhaps, by other reading requirements. Others make large use of lectures and of problems and brief reports assigned in connection with particular subjects discussed in the class. Some require the student to write one or more longer essays or themes on specific topics. In this book specific references have been appended to each chapter. The aim has been to list only books and papers that have value in themselves and that have a direct bearing upon the subject matter of the respective chapters. References to parallel discussions in other elementary textbooks have for the most part been avoided, the aim being to enable the student to extend his inquiries by reading more advanced and comprehensive treatments of particular problems.

There is no one " best way " of teaching economics, for the methods used must depend very largely upon the size of the classes and the maturity of the students. It has been the experience of the writers, however, that whatever the relative degree of emphasis put upon lectures, classroom discussions, and assigned problem work of different sorts, mastery by the student of one book on general economics, or at least of so much of it as treats of fundamental economic principles, is an essential part of every introductory course in the subject. When pressed for time, the teacher using this book may find it desirable to omit all of it save Book II, " Principles and Problems." When more time is available, it may be deemed wise to include discussions of certain subjects not treated in this volume. " The economic problems of municipalities," " the control of public utilities," " the elements of statistical method," " the problems of poor relief," " the general principles of market organization," are a few among many possible supplementary topics.

Valuable suggestions on the teaching of elementary economics will be found in various papers and discussions printed in the *Journal of Political Economy*, Vols. XVII–XXX (1909–1922). See also C. E. Persons, " Teaching the General Course in Economics," in *Quarterly Journal of Economics*, Vol. XXXI, and John Ise, " The Course in Elementary Economics," with discussion by others, in the *American Economic Review*, Vols. XII and XIII.

The problem of making an adequate amount of supplementary reading available to students in large classes has been made easier to solve by the publication of volumes of excerpts, designed for this particular use. (W. H. Hamilton, *Current Economic Problems;* L. C. Marshall, *Reading in Industrial Society;* L. C. Marshall, C. W. Wright, and J. A. Field, *Materials for the Study of Elementary Economics;* C. J. Bullock, *Selected Readings in Economics;* F. A. Fetter, *Source Book in Economics.*) Similar volumes have been made up of material on special economic problems. References to many of these will be found among the reading lists appended to the different chapters in this book.

Other American textbooks on economics of college grade are: C. J. Bullock, *Introduction to the Study of Economics;* R. T. Bye, *Principles of Economics;* F. S. Deibler, *Principles of Economics;* L. D. Edie, *Economics; Principles and Problems;* Fairchild, Furniss, and Buck, *Elementary Economics;* F. A. Fetter, *Economic Principles;* F. B. Garver and A. H. Hansen, *Principles of Economics;* H. G. Hayes, *Our Economic System;* L. A. Rufener, *Principles of Economics;* H. R. Seager, *Introduction to Economics;* E. R. A. Seligman, *Principles of Economics;* F. M. Taylor, *Principles of Economics;* and J. R. Turner, *Introduction to Economics.*

Among English books, Alfred Marshall's *Principles of Economics* occupies a peculiarly authoritative position. It is characterized by an unusually intimate grasp of the facts of modern economic life and by a rare degree of ability in critical analysis. It attempts to reconcile many of the modern developments in economic analysis with the fundamental tenets of the political economy of David Ricardo and John Stuart Mill. Marshall's *Principles* is difficult for any but the mature student, and his own attempt at an abridgment, his *Economics of Industry*, is distinctly inferior to the larger work. Two excellent books that are based in large measure on Marshall's *Principles* are S. J. Chapman, *Outlines of Political Economy*, and A. W. Flux, *Economic Principles.* The comprehensive English work of J. S. Nicholson (*Principles of Political Economy*, 3 vols.) is even more conservative in matters of economic theory than is Marshall's. Edwin Cannan's *Wealth* is a small manual with an original and suggestive point of view. One of the most notable recent English works is P. H. Wicksteed's *The Common Sense of Political Economy.* Henry Clay's *Economics*, a very readable book, is available in an American edition, prepared by E. E. Agger.

Special mention can be made of only a few of the more important German and Austrian works on general economics. Adolf Wagner's *Grundlegung der politischen Oekonomie* (2 vols.) is characterized by great erudition and by systematic and painstaking classifications and definitions. It puts especial emphasis upon the general ethical and political aspects of economic problems. The *Allgemeine Volkswirtschaftslehre* of Gustav Schmoller (2 vols.) is characterized by the consistent use of the historical

method, and by the extent to which psychology and ethnology as well as history are drawn upon to explain modern economic institutions. Wilhelm Lexis's *Allgemeine Volkswirtschaftslehre* is a smaller work, embodying a better exposition of fundamental economic principles than is found in most German treatises, and distinguished by a realistic account of economic processes and by a large measure of originality. The *Allgemeine Volkswirtschaftslehre* of Eugen von Phillipovich (2 vols.) contains a more systematic presentation of general economics than does any other work in the German language. It is distinctly catholic, or perhaps, eclectic, in its general theories. Robert Liefmann's *Grundsätze der Volkswirtschaftslehre* (2 vols.) is of somewhat less importance than the other works mentioned.

The *Traité théorique et pratique d'économie politique* (4 vols.) of Paul Leroy-Beaulieu may be taken as the best example of a rather dogmatic type of *laissez-faire* economics that still commands a large and influential following in France. Representative of a newer school of thought, more hospitable to various projects for constructive economic betterment, is the work of Charles Gide, whose two books on general economics are available in English translation (*Political Economy* and *Principles of Political Economy*). One of the best modern French works is Adolphe Landry's *Manuel d'économique*. Other books of high quality are H. Truchy's *Cours d'économie politique* and B. Nogaro's *Traité élementaire d'économie politique*. C. Colson's *Cours d'économie politique* (6 vols.) is an important work.

In other European countries, especially in Italy, Holland, and the Scandinavian countries, there has been much economic writing of a high order. Attention may be called to the English translation of the excellent Dutch work of N. G. Pierson, *Principles of Economics* (2 vols.), to the French translation (*Manuel d'économie politique*) of a book (in Italian) by Vilfredo Pareto, which is possibly the most noteworthy of various modern works in which mathematical methods are used in economic analysis, and to the German translation of the important work by the Scandinavian scholar K. Wicksell (*Vorlesungen über Nationalökonomie*) and to the English translation of G. Cassel's *Theoretische Socialökonomie*.

Encyclopedias. — The most comprehensive encyclopedia of economics is the great *Handwörterbuch der Staatswissenschaften* edited by Conrad and others. A smaller, but useful, German reference work is the *Wörterbuch der Volkswirtschaft* (3d ed., 2 vols.), edited by Elster. In French, the *Nouveau dictionnaire d'économie politique* (2 vols., with supplements), edited by Say and Chailley, is already somewhat antiquated and represents a rather narrow point of view. For special fields there are the *Dictionnaire des finances* (2 vols.), edited by Say and Foyot, and the *Dictionnaire du commerce, de l'industrie, et de la banque* (2 vols.), edited by Guyot and Raffalovich. The English *Dictionary of Political Economy* (3 vols.), edited by Palgrave, is a standard reference work. There is no American dictionary or encyclopedia covering the whole field of economics. The

Encyclopædia of Social Reform, edited by Bliss, is useful in its special field. Although published in the early eighties, some of the articles in Lalor's *Cyclopædia of Political Science, Political Economy, and United States History* (3 vols.) remain of value. The *Cyclopedia of American Government*, edited by McLaughlin and Hart, may be consulted on topics in public finance and related fields. Professor E. R. A. Seligman of Columbia University is chairman of a committee of a number of social science organizations which has begun publishing (1930) a comprehensive encyclopedia which will, when completed, constitute a much needed, up-to-date, general reference book covering all social sciences.

Periodicals. — Many of the most important contributions to economics appear in special periodicals devoted to the subject. In the United States there are the *Quarterly Journal of Economics*, the *Journal of Political Economy* (monthly), and the *American Economic Review* (the organ of the American Economic Association, quarterly). The *Political Science Quarterly*, the *Annals of the American Academy of Political and Social Science* (monthly), the *American Political Science Review* (quarterly), and the *American Journal of Sociology* (bi-monthly), frequently publish papers that are of importance for the student of economics. Limited to more specialized fields are the *Journal of the American Statistical Association*, the *Review of Economic Statistics*, the *American Labor Legislation Review*, the *Bulletin of the National Tax Association* (monthly), and the *Survey* (weekly, covering the field of charities and other organized movements for social betterment).

In England the principal economic periodicals are the *Economic Journal* (the quarterly organ of the Royal Economic Society), the *Journal of the Royal Statistical Society* (quarterly), and *Economica* (three numbers a year). The economic journals of the various countries of continental Europe, although of great value to the specialist, are too numerous to mention here.

The " trade journals " of different special industries and in the fields of banking and insurance are often useful to the special students in these fields. In particular the periodicals dealing with the general conditions of business and the money market are often indispensable. The *Commercial and Financial Chronicle* of New York (weekly) may be specially mentioned on account of the completeness and accuracy of its statistics of money market conditions. For London the *Economist* and the *Statist* occupy a similar position. The *Annual Financial Review* contains convenient compilations of the more important statistics that have appeared in the *Commercial and Financial Chronicle* during the preceding year. Such annuals as the *Statesman's Year Book* (London), *Whitaker's Almanac* (London), and the *World Almanac* (New York), are often useful for reference purposes.

Reference to the enormous output of articles on economic subjects in periodicals of a more general or popular type is now easy by using the " cumu-

lative indexes " and " readers' guides " that will be found in most colleges and public libraries. These articles are, of course, of very uneven quality and must be used discriminatingly. *Social Science Abstracts* publishes monthly a comprehensive abstract and index of the World's periodical literature in the Social Sciences.

Books in Special Fields. — The references given in connection with the different chapters in this volume are sufficient to enable one to make a fairly thorough study of the different subjects treated in these chapters. Many of the books referred to contain more elaborate bibliographies on their special subjects. The student should, of course, be familiar with the use of the card catalogue of a modern library. In using such a catalogue, it should be remembered that the library classification of books by subjects is very rarely entirely satisfactory, so that one should exercise one's ingenuity in searching under different subjects. The Library of Congress has printed in pamphlet form lists of books and articles on various practical economic problems, and is often able to furnish, at a small price, shorter typewritten lists of references on other subjects. Short annotated bibliographies are issued by different state legislative libraries and municipal reference libraries. The bibliographies in the various economic encyclopedias, especially the *Handwörterbuch der Staatswissenschaften*, will often be found helpful. A very complete list of new books in various fields of economics is published quarterly in the *American Economic Review*.

Government Publications. — The student should early acquire some familiarity with the use of government documents as first-hand sources of information. Aside from statutes and the proceedings of legislative bodies these publications include: (1) annual reports of different administrative departments and bureaus; (2) reports of special investigations made by the permanent bureaus or by special commissions; (3) records of the hearings before legislative committees of inquiry. A record of the enormous output of the publications of the federal government is contained in the *Monthly Catalogue of Public Documents*, published by the Superintendent of Documents, Washington. This has an annual index, and a comprehensive *Document Catalogue* is also published for each Congressional period. The *Check List of Government Documents* is convenient to use in locating regular or routine documents published before 1910. The *Annotated Tables of and Consolidated Index to the Congressional Series of United States Public Documents* may also be used for the same purpose. Poore's *Descriptive Catalogue of the Government Publications of the United States, 1774–1881*, is useful in locating irregular or obscure publications of various sorts. In nearly every congressional district there is a public or college library which is an official depository for federal documents and has a nearly complete set of those published in recent years. Current documents may sometimes be obtained without charge from the departments or bureaus issuing them, or from the Representative or Senator from one's dis-

trict or state. They can always be purchased at small prices from the Superintendent of Documents. The Superintendent of Documents issues small printed price lists of the publications in different special fields.

The Library of Congress publishes a *Monthly List of State Documents*. Bowker's *State Publications* (three parts) give a fairly complete list up to about 1900, and a full index to the economic materials in the documents of some of the larger states has been published by the Carnegie Institution. Municipal documents are often published in an unsystematic way, and there is no general index or list of either current or past municipal publications. The student should find it both practicable and instructive, however, to become acquainted with the published documents of the city in which he lives, or those of some large city in his state.

The British *Parliamentary Papers* contain a wealth of material on a wide range of economic topics. Much of this is listed in P. S. King & Son's *Catalogue of Parliamentary Papers, 1801–1900* (with *Supplements, 1901–1910, 1911–1920*). Lists of current publications are published by several London dealers. The more important ones are noted in the English economic journals. Among the government publications of other countries we can mention here only the valuable statistical yearbooks published by many nations and by a number of important cities. The *Statistisches Jahrbuch für das Deutsche Reich* is one of the best of these. The *Monthly Bulletin of Statistics*, issued by the League of Nations, gives a convenient summary of such current statistical information as has international significance.

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